SUSANVILLE INDIAN RANCHERIA

IV.D. Narrative Information Sheet

1. Applicant Identification:
   Susanville Indian Rancheria, 745 Joaquin Street, Susanville CA 96130

2. Funding Requested

   a. Grant Type Indicate "Single Site Cleanup"

   b. Federal Funds Requested: I. $___$441,545.02_____

   c. Contamination Indicate: "Hazardous Substances,". The ESA Phase II analysis confirmed for Site 1 the presence of lead, mercury, Polycyclic aromatic hydrocarbon (PAH), and dioxins that exceeded their respective screening levels and asbestos-containing materials (ACM) in surface and subsurface soils.

3. Location: a) City: Susanville, b) county: Lassen County, and c) Tribally owned land.

4. Property Information:

   Susanville Indian Rancheria
   477-280 North Weatherlow Street
   Susanville, CA 96130

5. Contacts

   a) Project Director:
   Roselynn Lwenya, Ph.D
   Natural Resources Director
   Susanville Indian Rancheria
   745 Joaquin Street
   Susanville CA 96130
   Phone: (530) 316-1856
   Fax: (530) 251-5635
   rlwenya@sir-nsn.gov

   b. Chief Executive/Highest Ranking Elected Official:
   Deana M. Bovée
   Tribal Chairwoman
   Susanville Indian Rancheria
   745 Joaquin Street
   Susanville, CA 96130
   (530) 257-6264 Desk
   (541) 951-6808 Cell
   dbovee@sir-nsn.gov

6. Population: The number of people living in the target area is 1,520. Tribal members: 446 and Non-tribal members: 1074

7. Other Factors Checklist

Identify which of the below items apply to your community/proposed project. If none of the Other Factors are applicable, please provide a statement to that effect

The following Other Factors **do apply**:

- Community population is 10,000 or less
- The applicant is a federally recognized Indian tribe.
- The proposed site is adjacent to a body of water (a wetland area, natural spring and West Barry Creek across the road.)

These Other Factors **do not apply**:

- The proposed brownfield site is impacted by mine-scarred land.
- Secured firm leveraging commitment ties directly to the project and will facilitate completion of the project/reuse: secured resource is identified in the Narrative and substantiated in the attached documentation.
- The proposed site is in a federally designated flood plain
- The reuse of the proposed cleanup site will facilitate renewable energy from wind, solar, or geothermal energy; or will incorporate energy efficiency.

2020 Brownfield Cleanup Grant Narrative Susanville Indian Rancheria (SIR)

1. Project area description and plans for revitalization

1.a. Target Area and Brownfields

i. Background and Description of Target Area: The Susanville Indian Rancheria (SIR) is the only federally recognized Indian tribe in Lassen County, in northeastern California. SIR's land base is in the city of Susanville, approximately 85 miles north-northwest of Reno, Nevada, on the eastern slope of the Sierra Nevada Range, 4240 ft. above sea level where it intersects with the Cascade Range. The original 30 acres of the Rancheria were acquired August 15, 1923 under the Landless and Homeless Act to establish a land base for the Maidu, Paiute, Pit River and the Washoe peoples who were displaced as a result of America's westward expansion. The town of Susanville itself was young (didn't incorporate until 1900); although loggers, miners and farmers had occupied the area for a century capitalizing on old growth forests, arid desert, mineral deposits and lush farmland.

Production in the lumber and mining industry began to decline in the late 1950s and 1960s.In the mid-1960s, the prison industry settled in finding Susanville to be an excellent place in which to build new prison facilities: California Correctional Center was constructed in 1963; High Desert State Prison, 1995, and in 2001, a federal prison was built in Herlong (40 miles south of Susanville.) Nearly half of the adult population of Susanville today work in the prisons where approximately 10,000 inmates are housed.

The prominence of the prison industry led to a growing population in Susanville. Since 2000, Susanville's population grew almost 15%. While economic progress is a good indicator, it also means that SIR must compete with the city and county for space to grow and continue to deliver services to the Native community members living in Susanville as well as the broader community in terms of the services that are offered at the Lassen Indian Health Clinic (LIHC). Additional tracts of land have been acquired in outside areas through special legislation, base realignment funds and tribal purchases, but within incorporated Susanville, tribal land in which to expand enterprises and facilities is limited, especially property contiguous to existing SIR tribal facilities, homes and businesses, such as the 10.45 acres on Weatherlow St., the basis for this brownfield cleanup grant.

Land to expand services and facilitate cultural exchange is needed. In the 2015 Strategic Plan, SIR's governing body approved using the Weatherlow St. property to create a permanent powwow ground on the land. It is directly across Paul Bunyan Road where other land purchased by the tribe will be utilized to build a larger Clinic as services to the whole community is expanding. There is also a developing interest in creating a Tribal Wellness Center as a result of work on another grant received by the tribe from the Substance Abuse and Mental Health Services Administration to begin to develop a system of care utilizing assets and resources in the community to help tribal members recover from historical trauma and promote mental and emotional well-being. A powwow ground developed from brownfield cleanup funds dovetails wonderfully in the tribe's new developments centered around health and healing.

The Weatherlow Street property- the location of this EPA Brownfield cleanup- is actually 3 brownfield sites: Site 1 -includes hazardous substances; Site 2 – includes petroleum contamination; and Site 3- includes a wetland area and well house in the Southeast corner of the map. Site 1 cleanup will be executed largely by a contractor familiar with hazardous materials. It is expected in the Site 2 cleanup the tribe will be able to handle the oversight of the cleanup and subcontract out most of this work. Once Phase I/Site 1 and Phase II/Site 2 are complete, Site 3 activities will focus on the restoration and preservation of the watershed and the reintroduction of native and culturally significant vegetation to the wetlands. An interpretive area for people to people to learn about their traditional ethnobotanicals in strongly envisioned as a result of the cleanup. After Site 1, 2 and 3 cleanup/restoration and adequate testing, the tribe plans to construct a permanent powwow ground on the Weatherlow property as a gathering place for local tribal communities to engage in this very important Native American cultural practice.

ii. Description of the Priority Brownfield Site: Site 1 is on a property that encompasses 10.45 acres, located at 477-280 North Weatherlow St. What is known about the site is anecdotal. The remains of the structures indicate that they were constructed during the 1940s based on building materials that used asbestos and lead paint. The structures on the site include: a 700 ft. home, a garage, a barn, a stable, a corral, and several sheds. An elderly couple had lived there, and in 1957, the property was acquired by Leo Guitierrez who utilized the property from 1957 until the beginning of 2002 to breed horses. When he died, his family remained there until March 2015 when SIR became interested in acquiring the property. Several fires

thought to have originated from vagrants destroyed most of the structures leaving burned debris piles at Decision Units (DU) DU1 & DU2 of the map. In the south and southeast portion of the site, there is a spring which supplies water to a marsh, a small pond, and sizable wetlands all of which are integral to West Barry Creek Watershed hydrologic structure as the primary drainage.

In 2017, an Environmental Site Assessment (ESA) Phase II ESA was conducted by Weston Solutions to assess contamination in soil, groundwater and soil vapor for the property. The analysis confirmed the presence of lead, mercury, Polycyclic aromatic hydrocarbon (PAH), and dioxins that exceeded their respective screening levels and asbestos-containing materials (ACM) in surface and subsurface soils. The presence of these contaminants could pose a health risk via inhalation, direct contact, or incidental ingestion, and migration to wetlands.

The decision units identified for Site 1 in the Phase II ESA of the brownfield cleanup are contaminated with hazardous levels of lead, dioxins, and asbestos. Other contaminants within the decision units in Site 1 that exceed commercial/industrial RSL (Residential Screening Level) and ESL (Environmental Screening Level) screening levels include: PAH & Mercury. Specifically, DU1, where the old barn used to be, contains hazardous levels of lead and friable ACM as well as PAHs above commercial screening levels. The old residence and garage of Site 1 (DU07, DU08, & DU11) contain hazardous levels of lead and dioxin with levels of mercury and PAH above commercial screening level as well. The main source of these contaminants are the age of the material within these buildings that were demolished and consolidated into burn piles after multiple fires inflicted severe structural damage to them. DU04 was an old lumber pile that now contains high levels of dioxin that warrants its excavation and removal.

1.b Revitalization of the Targeted Area

i. Reuse Strategy and Alignment with Revitalization plans: Upon completion of the cleanup of this Brownfields project, the Susanville Indian Rancheria (SIR will develop a permanent Powwow grounds, open space/ wetlands interpretive area and associated parking without having to worry about the community being subject to contaminants. This revitalization strategy aligns with the 2015 Strategic Plan, Native American traditions as practiced and passed down through generations, and also aligns with the comprehensive Multi-Jurisdictional Hazard Mitigation Plan (Plan) that was developed by a steering committee comprised of Lassen County, the City of Susanville, and SIR tribal leadership and administration, considering public comments and input from tribal members and adjacent property owners. The Plan is a living document that reflects ongoing hazard mitigation activities related to: earthquakes, fire, storms, hazardous materials release, and requires monitoring, evaluating, and updating to ensure the mitigation actions are implemented and provide meaningful strategies to address possible impacts and identified needs.

The redevelopment of the site also aligns with SIR's Tribal Environmental Plan (2017) and directive that "any new development proposed on tribal land should factor in the importance of restoration and preservation of ecosystem function to maximize health and wellbeing of tribal members and the surrounding community." Targeting and mitigating the contaminants on the site through the redevelopment strategy will protect the health and well-being of tribal members and surrounding community. Additionally, SIRs Integrated Resource Management plan (IRMP 2017) recommends prioritizing activities and projects that ensure restoration, preservation and management of tribal lands and natural resources in a sustainable manner. The project will also align with the current EPA Clean Water Act (CWA) 319 funded project: proposed West Barry Creek Hydrologic Restoration Project. West Barry Creek is a natural intermittent creek transecting the Weatherlow property, and the CWA grant will help us to restore as much as practicable the natural hydrologic function, wetlands and springs located within the eastern and southeastern portion of the Brownfield site. The remediation via removal of contaminated soils will prevent further surface water (runoff) contamination and reduce the potential for further groundwater contamination. The Area is not in a federally designated flood zone.

ii. Outcomes and Benefits of Redevelopment Strategy: The brownfield cleanup of the Weatherlow property and redevelopment strategy to utilize it for a powwow ground and open space interpretative area has many benefits. The Powwow grounds will serve as a permanent location in which to host an annual powwow as an important place for tribal members to participate in their traditions and celebrate cultural heritage on lands and an ecosystem that has been restored to wholeness. A powwow ground also serves the purpose of inter-tribal tradition sharing to learn about the history, ecology and vitality of other native people in the region. The project will also provide significant environmental benefits in terms of habitat restoration, flood management, and improved stormwater management. There are other benefits as well:

Health: The planned cleanup will facilitate beneficial health development by eliminating threats to human health by removing any new exposure pathways to the public or waterways. Also, there are benefits to tribal members' mental and spiritual well-being through restoring a critically sensitive area to balance and helping the plants and animals dependent upon the water sources on the property to recover.
SIR's economy and the local economy: Economic benefits will be realized by the community in general through the annual powwow event. The number of people who come to Susanville for a powwow weekend boosts hotel stays both at the tribe's Diamond Mountain Casino and other Susanville hotels and motels. Economic development is also realized by local restaurants, gas stations and community markets. The tribe also derives some economic benefit from renting space to vendors who sell their crafts and food at the powwow event. Additionally, the space could be utilized by the tribe for other events that may have required a rental fee in the past. And the powwow space could be rented out to community groups during non-powwow times.
Environment and Sustainability: The prevalence of invasive weeds can be minimized with native habitat restoration. The use of natural materials for the Powwow arbor and grounds will minimize the environmental impact of the site and is a land use that is less harmful and requires little maintenance. None of the planned public uses will be possible without a comprehensive cleanup due to the significant levels of contamination present in soil, and ground water throughout the Site. The Site is also within an Opportunity Zone and will support any new activities and potentially attract new investment.
Education: The reintroduction of naturalized and native species in an interpretive area can be integrated into designs to highlight culturally significant plants that will be accessible to all for educational purposes.

1.c Strategy for Leveraging Resources

i. Resources Needed for Site Reuse:
The SIR is currently implementing the CWA 319 nonpoint source grants on tribal lands which could be extended to be used towards the wetlands near Site 1. Access to the wetlands as a result of Site 1 cleanup of hazardous materials opens funding streams from the BIA (invasive species grant) and additional EPA CWA funds for the wetland area. These potential leveraged funds include the CWA 104(b)(3) grant for wetland remediation and the CWA 319 Competitive grant for hydrologic restoration since there will be no hazardous waste to prevent these projects from functioning optimally. The CWA 319 grant can also be used to analyze contaminants within the wetlands before and after cleanup/restoration.
Reuse: The Tribe is eligible to apply for and receive grants from the National Park Service to sustain the Tribal Historic Preservation Office (THPO) and cultural activities on the powwow grounds.

Additionally, the tribe is eligible for and receives funding from the Federal Government through the EPA and the Bureau of Indian Affairs (BIA) to sustain three Natural Resources Department (NRD) staff. SIR has also received Targeted Brownfields Assessment (TBA) assistance from EPA for the Phase II assessment of the property, however, there are no other local sources of revenue to complete the remediation of this site .
ii. Use of Existing Infrastructure: The site is contiguous to the SIR Lower Rancheria that is served by existing water, power, roads and phone lines. The tribe does not anticipate additional infrastructure needs. The tribe will use internal resources to develop the powwow grounds. Since the Powwow is an annual event, there will be no need to build restrooms. It is anticipated that rental porta-potties will be used during cultural events. Also, water will be trucked in during events. If need be, the tribe will connect to the city water supply systems which will be funded through tribal revenue sources.

2. Community Need and Community Engagement

2.a. Community Need

i. The Community's Need for Funding: The grant will be used to help meet the needs of a low-income community lacking the sources of funding to advance the project without assistance from EPA. The site is in a designated Opportunity Zone as it is tribal property, and Indian tribes are classified as an economically-distressed community. The community is unable to draw on other internal resources to provide funding to carry out the environmental remediation of the target area in part due to its small population base of members and below average income levels within of the Tribal community. Total population in the Target Area is 1,520 , Median family income $41,087, Poverty Rate is 37% Non-White Population is 28 (Source: ESRI 2018 and American Community Survey, 2013-2017. The neighborhood bordering the Site is a low-income community with low income levels. Nearly 30 percent of the population is

incarcerated in one of the two prisons located in Susanville. The population is growing slightly, however; it is driven mostly by unemployed or incarcerated people. This significantly reduces the number of residents that participate in the labor force, have expendable income, or utilize public services. The Social and Economic factors for Lassen county is ranked as 39 out of 57.

ii. Threats to Sensitive Populations.

(1) Health or Welfare of Sensitive Populations: In 2017 the total population of Susanville was about 15,286 with around 3,002 occupied housing units. 14.0% of this population were children under the age of 18 and 32.5% of the housing units were family households with at least one child under 18 (American Community Survey, 2013-2017). Additionally, in 2017 4.7% of the populations were veterans and around 10% of the population were 60 years and older. Children with developing immune systems as well as those with impaired immune systems such as the elderly are at risk of the contaminants within Site 1. The Analytes of Concern (AOCs) in soil including metals and asbestos are present at concentrations above screening levels and so pose a health risk via inhalation, direct contact, or incidental ingestion. These AOC's can also leach into the groundwater or transport offsite by runoff which can expose more people to the contaminants. The potential planned use of the site would involve the practice of Powwow dancing. This will stir up the dirt and contaminants will become airborne and could cause undue harm to those with impaired immune systems and potential short-term exposures to workers installing infrastructure at the Site. The proximity of Site 1 to the local Head Start Program and the education center that hosts an afterschool program is a cause of concern for the potential health threat it may represent to our youth and other sensitive populations.

(2) Greater than Normal Incidence of Disease and Adverse Health Conditions: In 2016, the Banner Health Community Health Needs Assessment (CHNA) Steering Committee conducted an assessment of the health needs of City as well as those in its primary service area (PSA). According to County Health Rankings & Roadmaps, Lassen ranks 31 out of 57 in California for overall health outcomes, with 57 being the unhealthiest. According to the County Health Rankings, the Target Area has 2,140 patients for every one primary care physician, while the state of California's ratio is 1,270:1. Taking into consideration that overall, Lassen County residents perceive themselves to be unhealthier than state and national benchmarks, the need for care could be greater. Chronic diseases and leading causes of death in the Target Site include cancer, heart disease, diabetes and obesity. These affect the quality of life and health of residents and are also a major driver of health care costs. In 2013, the most common types of cancer related to mortality included esophageal and pancreatic cancer *(CHNA, Banner Lassen Medical Center, 2016).* Prevalent contaminants within the site, Dioxin and lead, both at high levels or repeated exposures can lead to heart disease and cancer. Lead specifically can contribute to the increase in blood pressure if blood lead levels get too high. Dioxin tends to target both the immune system and the endocrine system, which includes the pancreas, which can eventually lead to cancer as dioxin does not breakdown easily. Removal of the target site can help alleviate these abnormal health occurrences.

Dioxin info: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2592298/

Lead Info: https://www.health.harvard.edu/heart-health/lead-and-heart-disease-an-underappreciated-link

(3) Economically Impoverished/Disproportionately Impacted Populations: The household income for Lassen county, $41,087, is well below the state benchmark of $68,190. Given that post-secondary educational attainment for Lassen County is significantly below the state average, it may seem a logical parallel that so is the median household income. The impoverished local community is also at risk to a variety of other cumulative pollutions sources in the area due to its industrial, commercial, and agricultural history. Pollution caused from pre1940s construction materials containing asbestos and lead paint is a pollution source in which low income communities are exposed to . Lassen County has an estimated population of approximately 35,550 people, 70 percent of whom reside in the city of Susanville. 65 percent of the population are White, 20 percent are Hispanic, 7 percent are Black, and smaller percentages are Asian, Pacific Islander, Native America, and other racial descents. It must be noted that nearly 30 percent of the population is incarcerated in one of the three prisons located near the Target Area. The population is growing slightly; however,it is driven mostly by unemployed or incarcerated people. This significantly reduces the number of residents that participate in the labor force, have expendable income, or utilize public services *(CHNA, Banner Lassen Medical Center, 2016).* Public transportation is an underdeveloped public service in the city of Susanville, so most residents, especially the impoverished, must walk to get to places. On numerous occasions, local residents have walked near or through the target site due to its proximity to the Diamond Mountain Casino, thus potentially exposing themselves to hazardous conditions because of the

lack of personal income to utilize a vehicle to get to their destination. Lassen County has a significantly higher population of single females with children than the state of California. According to the County Health Rankings data, Lassen has a 10 percent higher number of children in single parent households compared to the US benchmark. In the past, children and youth have been reported at exploring and playing on the target site prior to the demolition and burning of the structures, due to the lack of entertainment for youth in the area coupled with the lack of adult supervision. It is still likely that youth still visit or linger in the site at night, potentially becoming exposed to hazardous substances, due to the site's proximity to the residences and the lack of adult supervision in the area.
https://www.countyhealthrankings.org/app/california/2016/rankings/lassen/county/outcomes/overall/snapshot
How the Grant Will Serve to Address (or Identify) and Reduce Threats: The grant will help to advance cleanup of the site and its transformation from a major health hazard to a healthy environment for cultural practices and environmental education practice as well as open space. Lead is one of the major contaminants at the site and represents a direct threat to children in the area (around 14.0% of the population in 2017), who come from lower-income households, and may not have access to cultural and ecological amenities. Dioxin is also another concerning carcinogenic contaminant due to its high toxicity and persistence in the environment. Remediating Site 1 is the first step at removing hazardous levels of lead and dioxin impacted soil in the area. The cleanup will eliminate the site from serving as a source for contaminated dust as well as removing the potential for the identified contaminants eroding and moving into other areas such as the wetlands or Barry creek that border Site 1, which would spread exposure area of the contaminants.

2.b. Community Engagement.
i. Project Partners and ii. Project Partner Roles: SIR has strong local, state and federal partnerships to help define environmental priorities and leveraging resources. The partners will be involved in the design of a cleanup plan and will be informed on implementation activities of the chosen Analysis of Brownfield Cleanup Alternatives (ABCA). Maintaining stakeholder participation during cleanup promotes long-term community acceptance and support of the planned reuse of the Brownfields site. A list of partners is listed in table 1 below:
Table 1: Partners and their Role

Name/Contact	Organization/Entity	Role
Kayla Meyer, kmeyer@honeylakevalleyrcd.us	Honey Lake Valley Resource Conservation District	Collaborate with SIR in terms of watershed wide natural resource concerns.
Quincy McCourt, qmccourt@cityofsusanville.org	City of Susanville	Collaborate with SIR and public in terms of improving the community at large with the cleanup procedure.
Scott Nordstrom, snordstrom@co.lassen.ca.us	Lassen County Behavioral Health	Active participation in meeting to discuss the impacts of the cleanup and how to remediate them.
Devin Nelson, (530) 764-1392 Jade Fannan, (530) 250-5151	Concerned Residents	Interest in sharing their concerns and how the cleanup should address their concerns

Incorporating Community Input. On October, 21, 2019 SIR published a 15-day public notice inviting the public to discuss the project and submit comments regarding the proposal and Analysis of Brownfield Cleanup Alternatives (ABCA) on the SIR Website and notice boards at the Lassen Indian Health Clinic (LIHC), tribal resource center and tribal administration offices. A tribal meeting was held on 10/31/2019. If funded, the SIR will hold a special community meeting to announce the award, explain the project and timelines, what the community can expect and to answer pertinent questions about the cleanup process. At the meeting, information will be shared on future redevelopment plan and schedule, and input solicited from community which will be adopted and included in the cleanup plan. Also, there will be community meetings at key points in the project pre-project and post cleanup to provide information on the cleanup project milestones achieved and receive input on the proposed redevelopment activities. The public will be notified of the cleanup activities through announcement on the SIR website, notice boards, mass mail ing of flyers to each tribal member (18 years +) and scheduled community meeting. The Tribal Business Council (TBC), General Council, Tribal Administration and other pertinent departments and community will be informed of the progress and included in the decisions. The comments received were adopted and will be included in the cleanup plan. Future comments and concerns received through the Natural Resource

Department from walk-up visits from concerned citizens as well as from emails shall be addressed and incorporated into planning.

3. Task Descriptions, Cost Estimates, & Measuring Progress

3.a. Proposed Cleanup Plan.

The SIR will develop a cleanup plan that will include remediation strategies/remediation cleanup options, scope of work and associated RFP, cleanup phases, milestones, protection for the environment and public health and detailed cost. Cleanup of the Site will follow Alternative 5 in the Analysis of Brownfields Cleanup Alternatives (ABCA) which includes; excavation of contaminated soils and debris that exceed commercial/industrial screening levels, removal, and off-site disposal of contaminated soil will be performed strategically in critical areas prioritized for removal in the analysis plan. It is anticipated that EPA Cleanup funding will be used primarily for removal of contaminated soil. The most toxic soils will be disposed of as CA hazardous waste at the US Ecology Beatty NV Landfill. The other stockpiles and excavated soil will be disposed of as non-hazardous waste at a local landfill in Susanville.

3.b. Description of Tasks and Activities.

i) Project Implementation

Implementation of the grant and completion of the project will be a collaborative effort between NRD/PW/Hired contractors. The scope of work for Site 1 has been organized into four tasks, for which the specific activities, deliverables, and roles are summarized below. Details on the overall project schedule and on the required 20% match are provided at the end of this section. To ensure the smooth management of the grant, compliant with all the reporting and procurement requirements and timely completion of project tasks, the SIR NRD/Public Works/Grant Administrator will coordinate efforts to select the oversight consultant and remediation contactor who will primarily partake and complete the EPA funded cleanup activity. They will ensure that all environmental and grant requirements are met; and will perform all grant tracking compliance and reporting activities.

ii. Schedule

Task	Task/ Activity Lead	Outputs	TIMEFRAME			
			Q1	Q2	Q3	Q4
1	**Community Outreach / Grant Management** Leads: NRD + Public Works Public/TBC Meetings Establish Reporting Framework	Community Outreach Plan	X	X		
		Quarterly TBC Reports, Annual report, financial reports,	X	X	X	X
		Community Outreach Reports Meeting minutes, outreach material, & sign-in sheets.	X	X		
2	**Cleanup Planning** Leads: NRD + Public Works RFP prep Contractor selection Workplan approval	Clean up plan, Health & Safety plan, Copies of Contractor Required Permits		X		
		4 HAZWOPPER Training Certificates		X		
3	**Clean up Activities** Leads: Contractor Site Cleanup- Contract Work 5 days IC development Cultural Monitoring	Copy of Completed Contractor Agreement		X	X	X
		Report of Cultural Monitoring Activity		X	X	X
		Sampling plan	X	X		
		Landfill receipts Copy of Contractor invoices. Cleanup completion reports		X	X	X
4	**Administration & Next Steps** Leads: Fiscal Admin + NRD Establishing oversight protocol Workplan and procurement Land Use Planning	Copies of Workplans, Acreage of cleanup at the property site, Budget expenditures & Closeout reports.	X	X	X	X
		Land Use Plan for Powwow Grounds				X

iii. Task Activity Lead and iv. Outputs

Task 1 - Community Involvement/Grant Management

Activities include the holding of community meetings to discuss with the community the step by step activities SIR is going to take to remediate the cleanup. The SIR NRD Director will explain the timeframe of the cleanup activity, the potential start and end dates, and expected hazards associated with the cleanup procedure to the neighboring community. Outputs are a Community Outreach Plan along with the community meeting reports and comments received during the outreach activities. This task will be a cost share activity. The NRD director, PW director, Environmental technician, staff accountant, and grants administrator are the leads to this task.

Task 2 – Cleanup Planning

Activities include developing safety procedures for staff working near the site during cleanup or on the site during monitoring. Additionally, a cleanup plan that details the expected entrances and exits by construction vehicles, any potential road closures or restricted access points, and hazard mitigation activities like dust abatement. Request for proposals and contractor selection will occur during this activity lead by PW Director and the NRD director. NRD director, Public Works director, NRD Environmental Technician, and NAGRA Coordinator will attend HAZWOPER training to certify their presence at the hazardous cleanup operation Outputs include: a Clean up plan, Health & Safety plan, HAZWOPER certificates, and approved contractor workplans. T

Task 3 –Cleanup Activities

Activities include requesting for the contracting of cleanup consultant Project personnel and Field personnel (Equipment operator) for the successful completion of cleanup activities defined below (Adaptation of Alternative 5 in Final ABCA) and the development of a sampling plan. SIR Public Works and NRD staff will monitor activities during cleanup. Specific activities include:

- Excavation, segregation and stockpiling of contaminated soil and debris. Load out of hazardous soil and debris, assumes up to 1511 tons .
- Soils excavated from DU-2, DU-4, DU-7, DU-8, and DU-11, will be disposed of as CA hazardous waste at the US Ecology Beatty NV Landfill.
- Backfill and compact excavations with up to 1,500 tons of select CII Base: Soil compaction achieved using a sheepsfoot roller; Fill import and deliver assumed at $30/ton

Outputs include: Landfill receipts, cleanup completion report, cultural monitoring report, and sampling plan.

Task 4 –Admin. & Next Steps

SIR staff (primarily led by SIR's Fiscal and NRD's director) and the contractor's team will coordinate oversight activities specific to the site cleanup review, and approval of work plans and technical reports associated with Tasks 1-3. Project oversight: prepare remediation, sampling and health safety plan, field activities, analytical laboratory for soil samples, preparation of summary report and preparation of Institutional Controls (IC) and deed restrictions. Additionally, the creation of a land use plan to describe how the land will be used to spur economic development after its cleanup. Outputs are land use plan, final closeout reports, and copies of budget expenditures..

3.c. Cost Estimates:

Budget Categories	Task 1 -Community Involvement	Task 2 - Cleanup Plan	Task 3 - Site specific Cleanup	Task 4 - Oversight and Administration	TOTAL
Personnel	3034.40	6518.70	1426.80	2148.96	13128.86
Fringe Benefit	849.63	1825.24	399.50	601.71	3676.08
Travel	0	6300.00	0	0	6300.00
Equipment	0	0	0	0	0
Supplies	0	0	0	0	0
Contractual	0	0	519,831.60	0	519,831.60
Other	0	0	0	0	0
Total Direct	3884.03	14643.94	521657.90	2750.67	542936.54
IDC	1512.05	5700.88	710.98	1070.83	8994.74
Total Federal Funding	4316.86	16275.86	417895.04	3056.95	441545.02
Cost Share 20%	1079.21	4068.96	104,473.78	764.24	110386.26
Total Budget	5396.08	20344.82	522368.88	3821.51	551,931.28

Cost Estimates

Task 1- Community Outreach/ Grant Management

The personnel line item breaks down to the following: NRD director 40 hrs. x $34.20 /hr. = $ 1368; Public Works director 24 hrs. x $34.20/hr.=$820.80; Environmental Technician 40 hrs. x $21.14/ hr.=$845.60 (DIRECT COSTS) Total personnel= $ 3034.40. Fringe Benefits (28% of salaries) =$ 849.63; IDC (38.93%) = $1512.05. COST SHARE (20%) 1079.21/ FEDERAL FUNDING (80%) = $4316.86

Task 2- Cleanup Plan Planning

The personnel line item breaks down to the following: NRD director 24 hrs. x $34.20 /hr. = $ $820.80; Public Works director 69 hrs. x $34.20/hr.=$2359.80; Facilities Manager 45 hrs. x $27.79= $1250.55; NAGPRA Coordinator 45 hrs. x 25.25= $1136.25 and Environmental Technician 45 hrs. x $21.14=$951.30. Total personnel=$6518.70. Fringe Benefits: (28% of salaries) = $1825.24; Travel: 4 people x $600 for Hazwopper Training Fees = $2400; lodging $129/ day x 5 days x 4 people=$2580 and per diem $66/day x 5 days x 4 people= $1320. Total Travel = $6300.00. IDC % is 38.93% on personnel, fringe, and travel=$5700.88. IDC (38.93%) = $5700.88; COST SHARE=$4068.96/ FEDERAL FUNDING=$16275.86

Task 3- Cleanup Activities

The personnel line item breaks down to the following: Public Works director 24 hrs. x $34.20/hr.=$820.80; NAGPRA Coordinator 24 hrs. x 25.25= $606.00. Total personnel =$1426.80/ Fringe (28%) of salaries= $399.50; IDC (38.93%) = $710.98. Contractual costs: 519,831.60 COST SHARE= $104,473.78/ FEDERAL FUNDING= $417,895.04

Task 4 -Oversight and Administration

The personnel line item breaks down to the following: NRD director 48 hrs. x $34.20 /hr.= $1641.60; Environmental Technician 24 hrs. x $21.14= $507.36; Total personnel =$ 2814.96 Fringe $601.71; IDC (38.93%) =$1070.83. COST SHARE= $764.24/FEDERAL FUNDING=$3056.95

**The administrative costs reflected in the IDC line item of the budget does not exceed 5% of total federal funding request*

3.d. Measuring Environmental Results

The NRD Director and SIR Public Works department will oversee all cleanup activities, including keeping a daily log, taking pictures from a safe location, monitoring the contractors work, keeping the public informed, reporting progress to TBC and community. All progress will be measured against the schedule of outputs, entered into ACRES. In regular meetings with the EPA project manager, adjustments to the schedule and budget will be made as necessary. **Below are short-term and long-term outcomes**.

Upon notice of award, the Work schedule will be updated with tasks, subtasks, milestones, and reporting requirements specific to the EPA grant, including the outputs associated with each task as detailed in Sections 3.b and 3.c. This schedule will be reviewed on at least a bi-weekly throughout the project to identify deviations in schedule as soon as they occur, so that corrective measures can be developed and implemented to maintain progress. Copies of the updated schedule will be included with each quarterly progress report provided to EPA as well as posted to the SIR website. Safety plans will be developed and adhered to.

Environmental Cleanup Results: The anticipated short-term cleanup results or outcomes for the project will be documented and include: 1) the quantity and mass of contaminated soil, and associated mass of individual contaminants of concern removed; 2) the quantity of soil successfully treated to reduce metals concentrations to non-hazardous levels; 3) the land area made safe for public access through adequate removal/containment/control of contaminated soils 4)10 acres of land cleaned up and available for redevelopment.

Redevelopment Outcomes: The eventual long-term redevelopment outcomes that will be tracked and measured will include: 1) acres of land redeveloped for open space 2) acres of land for which made available for development of Powwow grounds and associated parking; 3) Open space and 4) EPA funding leveraged for Non-point source control and finally, all outputs and outcomes completed during and after grant period will be reported to EPA.

4. Programmatic Capability and Past Performance.

4.a. Programmatic Capability

Organizational Structure

The Cleanup Grant activities including assessment, planning, design, remediation, construction, and community engagement) will be led by the Public Works department and NRD department and

supported by other SIR key departments including Grant Administrator and Fiscal department The above staff have managed and administered multiple grants and are familiar with all steps and strategies necessary for timely and successful expenditure of funds, as well as the EPA Grant technical, administrative, and reporting requirements. The Fiscal department will be processing invoices as well as providing financial administrative support.

Description of Key Staff

- **Dr. Roselynn Lwenya, SIR Natural Resources Director** will manage the EPA Grant administrative and programmatic requirements. Dr Lwenya has an earned Doctorate degree in Environmental Studies. She is an environmental and Community Development specialist with over 20 years' experience in environmental planning and resource protection, management and supervisory capacity, budget development and administration, project planning, policy analysis, environmental assessments, project reviews and action-oriented research. She has managed coordinated implementation of multiple programs including; U.S. EPA-General Assistance Program (GAP) and U.S EPA- Clean Water Act (CWA) Section 106 program; Department of Energy- Energy Efficiency Conservation Block Grant- American Recovery and Reinvestment Act (ARRA); Tribal Historic Preservation Office work assisted by a grant from the National Park Service, Army Corps of Engineers, Caltrans and Integrated Resource Management Plan grant from Bureau of Indian Affairs.
- **Russ Burriel, SIR Public Works Director**
  Accomplished Manager with extensive experience in Construction Management, Tribal Facilities Management, and Tribal Public Works Director. I have demonstrated an ability to cut cost and supervise staff, manage resources and quality performance. He has the following core competences, carpenter, Electrical, drywall, painter, heavy equipment operator, power tools, laser grading tools, blue prints design, site supervision. He has supervised the following projects: IHS Water Project / Herlong, CA as Tribal Representative/Project Manager *$225,000 Project,* Project Manager for MOA and contracts regarding Indian Health Services, SIR BIA Pulverization Project as Tribal Representative/Project Manager*$1.1 Million Project*, SIR Water Tank Project as Tribal Representative/Project Manager *$300,000 Project,* SIR Skyline Road Project as Tribal Representative and SIR Road Reconstruction on Spring Ridge Rd. (Phase I) as Tribal Representative/Project Manager, *$785,000 Project*
- **Mary Lee Dazey, SIR Grants Administrator:** Ms. Dazey has 14+ years of experience in nonprofit and tribal grant development and grant compliance/management. Ms. Dazey has a BA in English from San Francisco State University and a MA in Education from the University of Nevada, Reno. She is a licensed secondary education English teacher and taught for 6 years in Nevada high schools.
- **Melany Johnson, SIR Tribal Historic Preservation Officer: Ms Johnson** has over 30 years experience in cultural resource protection and Traditional Ecological Knowledge. The THPO participated in the TBA process as cultural monitor. THPO will be on site in a staged safe place to monitor for cultural resources during excavation.

Acquiring Additional Resources

The EPA Brownfields funds will follow all Federal rules and regulations governing the use of such funds to appropriately acquire expertise and additional resources from a qualified environmental contractor. All procurement transactions will be conducted in a manner providing a full, free, and open competition consistent with Federal Regulations The contractor will work under an approved contract and scope of work. Consultant contracts/services will follow the same bidding process that corresponds to the amount of the contract/service Formal Competitive Bid. The SIR will retain qualified environmental consultants for potential use on this or other EPA-grant funded projects

4.b. Past Performance and Accomplishments.

SIR has not received an EPA Brownfields grant but has an excellent record of managing other federal grants and nonfederal assistance agreements. including the following sample projects successfully completed by the SIR in the past 12-year period:

Year - $	Describe Awarding Agency – Name of Grant	Purpose	Accomplishment

2013 $1.1 million	SIR BIA- Pulverization Project	Public improvement of existing road surfaces at Herlong Tribal Residential Zone	5 culverts rehabilitated Road Renewed Utilities restructured
2018 - $344k	U.S. EPA - Performance Partnerships	General assistance program-capacity building, Clean water program implementation	Environmental protection performance measures met
2007 - $1.2 million	ICDBG - American Indian Education Center	Construction of new community center and office building	New community center attached to head start program and offices

(1). Purpose and accomplishments – should be descriptive for each grant

SIR's 2013 BIA funded Pulverization Project was a public improvement undertaking that re-quired full time inspection and testing per Caltran's Design Manual for the road reconstruction and cul-vert rehabilitation activities within the project scope. Associated tasks to the activities included pulverization of existing composite road surfaces, road bed modifications, hot mix asphalt paving, and traffic striping and pavement markings. This $1.1 million-dollar project resulted in over 1.7 miles of road being paved and 5 total culverts cleaned and flushed. SIR's Russ Burriel was the contact person for the project and contracted with Sierra Nevada Construction.

SIR has an extensive EPA Performance Partnerships Grant program totaling around $344K each year. Roselynn Lwenya administers this grant that involves a water quality monitoring program (6 surface water and one groundwater sites), an abandoned vehicles program, a solid waste management program, and a community outreach program. The yearly outputs and accomplishments of these programs include: a yearly report detailing the current water quality (parameters of concern) in respect to the 10 years of historic water quality data; an annual report listing the number of abandoned vehicles towed and disposed of properly ranging from at about 10 a year; a community-wide spring cleanup event removing approximately 4 40-yard dumpsters of trash, and an earth day after-school program event that partners with SIR's education department.

SIR also completed in 2007 a $1.2 million grant from ICDBG (Indian Community Development Block Grant Program) to develop a new community center and office space connecting the head start children development program building. The facilities created under this grant led to the expansion of both the Natural Resource Department and Education Department for SIR. The building entails a meeting room where Tribal Business Council meetings are held twice every month, 4 classrooms where afterschool activities are held, office space for the NRD, and office space and a front desk for the Tribal Chair person. The building activity was overseen by SIR's Russ Burriel.

(2) Compliance with Grant requirements:

The SIR departments function in adherence to the established administrative and financial policies and procedures. The SIR also follows the protocols established within the SIR Fiscal Manual approved on 03/05/2013. SIR is governed by a central administration, and the Tribe's Fiscal Department is charged with the accounting and reporting of SIR programs. The Fiscal Office must use Generally Accepted Accounting Practices (GAAP) in the performance of their duties, and SIR is required to conduct A-133 audits on an annual basis. SIR has a record of acquiring and operating external funding from a wide variety of sources including both public and private sources. The Fiscal Office provides monthly account statements that include the following: budgeted amounts, actual expenditures, open commitments, balances available, percentage of funds used, and a summary of all budget transactions. SIR has managed and administered federal grants and contracts in the past and has the capacity to administer the requested funds for this project. SIR uses standard reporting forms as well as specific program reports to assure proper documentation of program progress. A detailed record keeping system is in place to maintain and utilize all information measuring the progress toward the achievement of administrative objectives. The Tribe has had an unqualified opinion in its last ten fiscal audits.

Threshold Criteria Response

1. Applicant Eligibility

The Susanville Indian Rancheria is a federally recognized tribe and thus eligible for funding.

2. Previously Awarded Cleanup Grants

Susanville Indian Rancheria (SIR) has not received any prior brownfield grants from the EPA or any other agency or organization.

3. Site Ownership

The Gutierrez Property was transferred to the tribe from the Susanville Indian Rancheria Corporation (SIRCO) on 1/28/2016 as shown by the record of deed.

4. Basic Site Information

a. Gutierrez Ranch 10.45 acres consisting of a former barn, corral, several sheds, a singe story residence, a stand-alone garage, various debris piles, and a pump/well house that remains. Within this property exists three separate brownfield sites as denoted in the attached map below. Site 1 is the focus for this proposal, which consists of the former barn, residence, garage, and lumber pile.
b. 477-280 North Weatherlow Street, Susanville CA. 96130 (Assessor's Parcel Number 103-190-09-11)
c. Susanville Indian Rancheria is the current owner

5. Status and History of Contamination at the Site

a. Site 1 is contaminated with hazardous levels of lead, dioxins, and asbestos and the brownfield site in which we are requesting funding. Other contaminants that exceed commercial/industrial RSL (Residential Screening Level) and ESL (Environmental Screening Level) screening levels include: PAH and Mercury. A map is attached at the end of this document showing the exact areas of contamination in Site 1 that is located near other brownfield sites (Site 2 and 3).
b. According to the Phase I Environmental Site Assessment (ESA) done by Terracon in 2015, the only historically known activity at the site was horse breeding that took place from 1957 until the early 2000s by Leo Gutierrez. He was the primary owner of the property until it was transferred to the tribe in 2016. After the horse breeding phase at the site, from 2000 until 2015, the area was used primarily as residential housing for Leo and his family. The property has been unoccupied since March 2015 when the transfer process to the tribe was initiated by SIRCO.
c. The source of contamination on the property relates to 1940s building-construction material that predate laws prohibiting the use of asbestos and lead pain. Multiple fires were caused in the house in 2015 before SIR acquired the property. In 2016, a fire destroyed the barn. Post-fire cleanups were undertaken by SIR's Public Works Department to consolidate some of the unsafe structural debris from the house and the barn fire into piles to remove them from the area. Prior to this cleanup, a number of other structures such as the residence, garage, and

sheds were demolished to prevent squatters from using these abandoned buildings. Currently, the property is unoccupied. Burned debris piles and portions of the residence, barn and stable and sheds remain. Burned lumber piles are located on the western portion of the site and a wetlands area on the southeast. The ecological health and sustainability of the wetlands that border the contaminated site are the primary environmental concerns. Due to the fact that the contamination has not been covered or protected in any way from the weather, SIR's Natural Resource Department (NRD) staff worry that some of the contamination has entered the wetlands and possibly the groundwater through leaching and erosion. Tribal members believe that important ethnobotanicals such as Elderberry and Tules- used medicinally and culturally near the sites of contamination -are also contaminated.

d. When SIRCO (Susanville Indian Rancheria Corporation) first acquired the property from Leo Gutierrez, and on retrieval, SIRCO initiated the Environmental Site Assessment (ESA) Phase I analysis from Terracon Consultants which was undertaken and completed on March of 2015. This analysis assessed the overall condition, historic usage, and past records of any Environmental Liens of the property. Next, after the tribe acquired the property, a Phase II ESA was completed in which soil and groundwater were sampled. Completed October 2017, the soil sampling found Recognized Environmental Conditions (RECs) to include: lead, mercury, naphthalene, dioxins, and asbestos-containing materials (ACM) in surface and subsurface soils; Hazardous levels of lead were found in the former barn and stables, former residences, and garage. Hazardous dioxin was found in the former lumber piles and residences.

6. Brownfields Site Definition

CERCLA1 defines a "Brownfield Site" as:
"...real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant."
Brownfield sites include residential, commercial, and industrial properties.
Site 1 meets the above definition of a brownfield site due to the presence of hazardous contaminants (lead, dioxin, and asbestos) in this commercial property owned by the Susanville Indian Rancheria. Additionally, the brownfield site is:

- not listed on the National Priorities List
- subject to unilateral administrative orders, court orders, administrative orders on consent, or judicial consent decrees issued to or entered into by parties under CERCLA
- nor is it subject to the jurisdiction, custody, or control of the U.S. government.

7. Environmental Assessment Required for Cleanup Grant Applications

a. A Phase II Environmental Site Assessment Targeted Brownfields Assessment Report was conducted on the property, which encompasses Site 1, in October 2017 by Weston Consulting following Terracon Consultant's Phase I ESA report in 2015. These tests are compliant to ASTM E1903 and were completed before the application submission. The Environmental Site Assessment (ESA) Phase II ESA included soil and groundwater sampling and screened for asbestos and lead-based paint and other metals throughout the site. A total of 35 surface and shallow subsurface soil samples took place and a test of the water quality from the well.

8. Enforcement or Other Actions

There are no liens against the property nor are there any anticipated environmental enforcement or other actions related to the property.

9. Sites Requiring a Property-Specific Determination

a. SIR's Site 1 does not require a property specific determination. It:

- **Is not** a site/facility subject to a planned or ongoing CERCLA removal action.
- **Is not** a site/facility that has been issued a permit by the U.S. or an authorized state under the Solid Waste Disposal Act (as amended by the Resource Conservation and Recovery Act (RCRA)), the Federal Water Pollution Control Act (FWPCA), the Toxic Substances Control Act (TSCA), or the Safe Drinking Water Act (SWDA).
- **Is not** a site/facility subject to corrective action orders under RCRA (sections 3004(u) or 3008(h))?
- **Is not** a site/facility with a land disposal unit that has submitted a RCRA closure notification under subtitle C of RCRA or subject to closure requirements specified in a closure plan or permit.
- **Is not** a site/facility that had a release of polychlorinated biphenyls (PCBs) that is subject to remediation under TSCA
- **Is not** a site/facility that received funding for remediation from the Leaking Underground Storage Tank (LUST) Trust Fund.
-

10. Threshold Criteria Related to CERCLA/Petroleum Liability

This application is for Site 1. in which hazardous materials are planned to be removed from the site; therefore, only a response under **10 a** is required.

a. Property Ownership Eligibility – Hazardous Substance Sites

- **EXEMPTIONS TO CERCLA LIABILITY**
  1. SIR is a federally recognized tribe and EPA does not consider Indian Tribes to be liable under CERCLA therefore, tribes are exempt from demonstrating that they meet the requirements of a CERCLA liability defense to be eligible for a Brownfields Grant.

11. Cleanup Authority and Oversight Structure

a. The cleanup process for Site 1 will remove all the hazardous waste identified on site. The excavation, offsite disposal, and backfill of the identified hazardous sites shall be contracted out to other companies more familiar with the work. Russ Burriel, SIR's public works director, will be present to supervise and oversee the completion of the project along with other SIR personnel trained in HAZWOPER Certification (Public Facilities Manager, Tribal Historic Preservation Officer, Environmental Technician). Additional personnel with technical expertise to conduct, manage, and oversee the cleanup will be contracted onto the project to oversee that the waste is fully removed and disposed of offsite in the appropriate hazardous waste facility.

12. Community Notification

a. **Draft Analysis of Brownfield Cleanup Alternatives and SIR's draft proposal.** The NRD posted a Community Notification Ad on October 21st to notify the community of the opportunity to analyze and comment on SIR's draft proposal of the EPA Brownfield Cleanup grant and weigh in on a set of alternatives (ABCA) for the cleanup. This notification provided a 2 week period in which to comment (October 21st to November 4th) and the following channels in which to do so: a public meeting scheduled for Oct. 31, 2019; reviewing the draft and ABCA at the NRD office to make comments, and/or submitting comments to the Tribal Administrator. Within the Community Notification Ad, the draft ABCA was briefly summarized and the recommended cleanup alternatives listed.

b. **Community Notification Ad**
    1) The community notification ad was published on SIR's website
    2) The community notification ad was posted at the entrances to public facilities such as SIR's resource center and education center.
    3) Flyers were also mailed out to all tribal member households in Lassen County.

The community notification ad provided the following information:

- a public meeting time, date and location (October 31st, 2019 at 4:00 pm at 735 Joaquin Street in Susanville, CA 96130) to discuss actions and alternatives
- the location of review documents (ABCA) and FY 20 EPA Brownfield Cleanup proposal to review and comment upon in the Natural Resource Department and the office hours and contact information
- how the community can submit comments in writing about the ABCA and EPA proposal to SIR's Tribal Administrator with the email address and the physical address

c. **Public Meeting**

SIR's NRD planned a public meeting on October 31st, 2019 at 4:00 pm at 735 Joaquin Street Susanville ,CA 96130. Unfortunately, no one attended the community meeting. This is not uncommon for SIR's community as there is little to no turnout for Tribal Business Council meetings and General Council Meetings. The NRD did receive one individual who came a few days later after the meeting to the main office to comment on the ABCA draft and register his/her concern for how the Public meeting should have been on a different date. The NRD will take this into account and try to avoid holding meetings on days when other community activities are taking place.

Additionally, other community outreach activities were pursued to account for the lack of attendants during the October 31st meeting. The Natural Resource Director and Environmental Technician went out into the community knocking on doors to facilitate a discussion on the planned cleanup activities for the brownfield. Attached is a document detailing the comments and responses from community members that answered the door.

Also, community members were asked if they wished to be part of a consultation team to field concerns that may arise before, during, and after the cleanup.

d. Submission of Community Notification Documents

Attached are the

• a copy of the draft ABCA(s);

• a copy of the Public Notice flyer that demonstrates notification to the public and solicitation for comments on the application;

• the comments or a summary of the comments received during our Community Outreach activities;

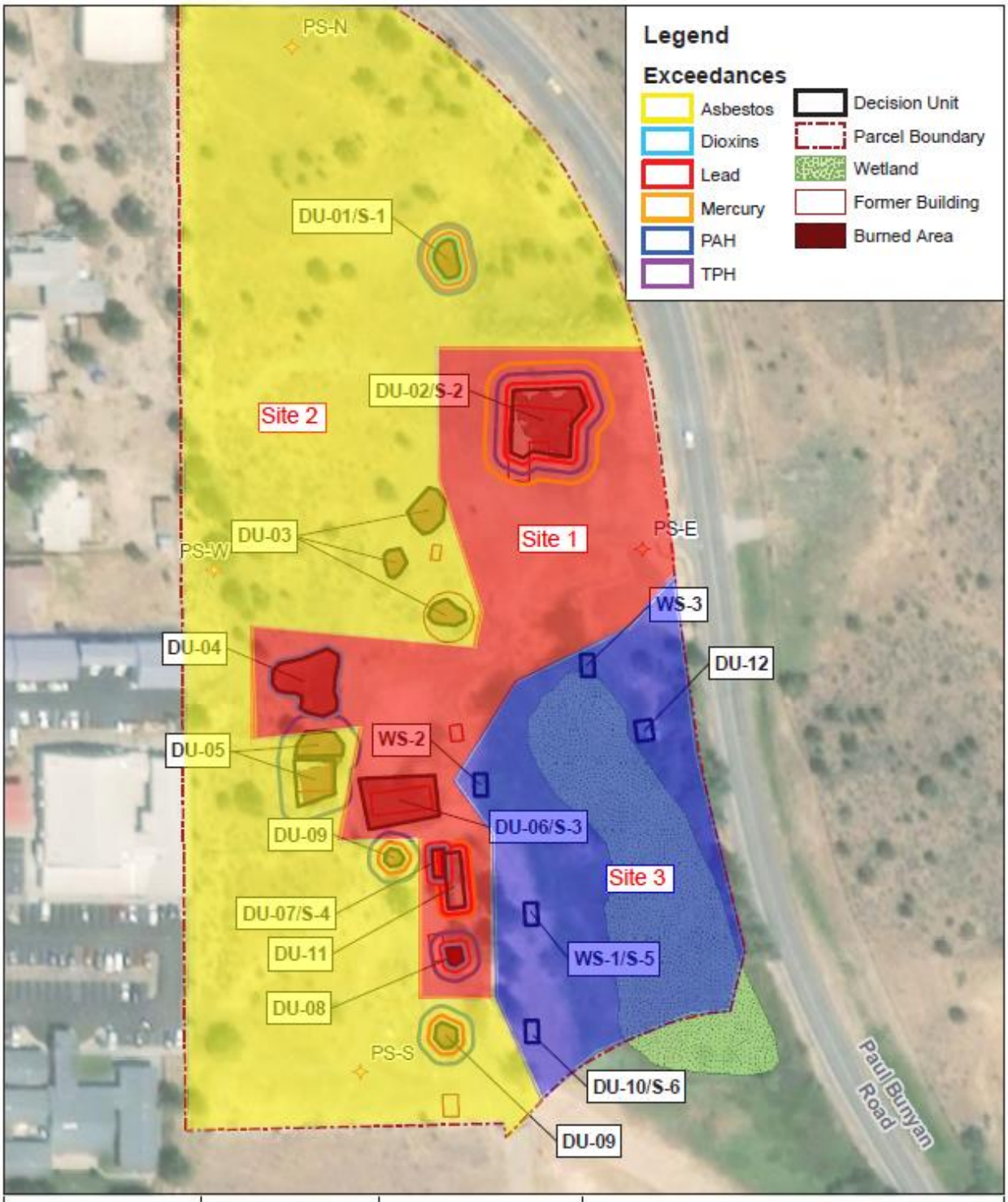
• SIR's NRD's response to those public comments;

• meeting notes or summary from the public meeting(s); and

• meeting sign-in sheets.

13. Statutory Cost Share

SIR will meet its 20% Statutory Cost Share through the Tribal Nation Grant Fund Program as approved by the Tribal Business Council on November 19, 2019 in resolution #SU-BC-055-2019



0 Scale in Feet 125

PREPARED BY:
Region 9, START
Weston Solutions, Inc.
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PREPARED FOR:
EPA Region 9
Brownfields Program

FIGURE ES-1
SITE SUMMARY MAP
Susanville Indian Rancheria
North Weatherlow Street - 477-280
Targeted Brownfields Assessment
Susanville, Lassen County, California

Contract: EP-S5-13-02; TDD: 0006/1302-T6-R9-17-06-0001

Document Control No.: 0154-08-ABPB

FINAL
ANALYSIS OF BROWNFIELDS CLEANUP ALTERNATIVES

Susanville Indian Rancheria Phase II Targeted Brownfields Assessment
477-280 North Weatherlow Street
Susanville, Lassen County, California

Prepared for:
U.S. Environmental Protection Agency
Region 9

EPA Contract Number: EP-S5-13-02
TDD No.: 0006/1302-T6-R9-17-06-0001
Document Control Number: 0154-08-ABSU

January 2019

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FINAL
ANALYSIS OF BROWNFIELDS CLEANUP ALTERNATIVES

Susanville Indian Rancheria Phase II Targeted Brownfields Assessment
477-280 North Weatherlow Street
Susanville, Lassen County, California

EPA Contract Number: EP-S5-13-02
TDD No.: 0006/1302-T6-R9-17-06-0001
Document Control No.: 0154-08-ABSU

Approved by:_____ January 7, 2019
Wilson Yee, Project Manager Date
Weston Solutions, Inc.

Approved by:_____ January 7, 2019
Brian Milton, ABCA Quality Assurance Coordinator Date
Weston Solutions, Inc.

Approved by: _____ _____
Lisa Hanusiak, U.S. EPA Task Monitor Date
U.S. Environmental Protection Agency, Region 9

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LIST OF ABBREVIATIONS AND ACRONYMS

%	percent
ABCA	Analysis of Brownfields Cleanup Alternatives
ACM	asbestos-containing material
bgs	below ground surface
CFR	Code of Federal Regulations
DTSC	Department of Toxic Substances Control
DTSC-SL	Department of Toxic Substances Control Screening Level
DU	decision unit
EPA	U.S. Environmental Protection Agency
ESA	Environmental Site Assessment
ESL	Environmental Screening Level
HAZWOPER	Hazardous Waste Operations and Emergency Response
IC	Institutional Control
LDRs	land disposal restrictions
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
NESHAP	National Emission Standards for Hazardous Air Pollutants
OSHA	Occupation Safety and Health Administration
PAH	polycyclic aromatic hydrocarbons
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RWQCB	Regional Water Quality Control Board
SIR	Susanville Indian Rancheria
SIRCO	Susanville Indian Rancheria Corporation
Site	477-280 North Weatherlow Street, Susanville, Lassen County, California
STLC	Soluble Threshold Limit Concentration
TBA	Targeted Brownfields Assessment
TCDD	2,3,7,8-Tetrachlorodibenzo-p-dioxin
TDD	Technical Direction Document
TEQ	Toxic Equivalent
Terracon	Terracon Consultants, Inc.
TPH	total petroleum hydrocarbons
TPH-d	total petroleum hydrocarbons as diesel
TPH-mo	total petroleum hydrocarbons as motor oil
TTLC	Threshold Limit Concentration
WESTON®	Weston Solutions, Inc.

EXECUTIVE SUMMARY

The U.S. Environmental Protection Agency (EPA), Region 9 tasked Weston Solutions, Inc., (WESTON®) to conduct an Analysis of Brownfields Cleanup Alternatives (ABCA) for the property located at 477-280 North Weatherlow Street, Susanville, Lassen County, California (Site). This ABCA was prepared under EPA Contract EP-S5-13-02. WESTON performed a Phase II Targeted Brownfields Assessment (TBA) at the Site during spring 2018. The TBA was requested by the Susanville Indian Rancheria (SIR, the applicant) and performed under contract with the EPA. The purpose of the TBA was to characterize conditions at the Site because it is being considered for reuse. This ABCA report identifies and compares different cleanup scenarios to address contaminants identified during the Phase II TBA (WESTON, 2018). The cleanup scenarios were evaluated on effectiveness, implementability, and cost.

The proposed reuse of this Site is for commercial use, potentially including a parking lot on the northern portion of the property and a cultural area for powwows in the southern portion. Although neither residences nor a garden containing consumable foods or medicinal or ceremonial plants are anticipated for the Site, residential screening levels were selected based on a request by SIR. Based on this request, the alternatives proposed in this ABCA were selected with the expectation that they will be protective for both commercial and residential use scenarios and that, with the exception of potentially restricting the use of groundwater or otherwise maintaining a remedy such as a soil cap, no other restrictions on future Site activities would be required. Should the SIR elect to restrict use scenarios to commercial/industrial exposure scenarios and/or implement the use of other institutional controls (ICs), other less expensive and less protective remedies may be available. It was assumed that for all remedies that include leaving potential contaminants in place (e.g., remedies that propose capping contaminants with clean fill), ICs are necessary. These ICs may include, but are not necessarily limited to, the following: fencing and warning signs around contaminated areas; and requirements to inspect, maintain, and repair caps. Restrictions on the use of shallow groundwater were assumed for all remedies.

The Site consists of one parcel, identified as Lassen County Assessor's Parcel Number 103-190-09-11, totaling approximately 10.45 acres (Figure ES-1) located in a mixed commercial and residential area. The Site has been developed since the late 1940s/early 1950s and was used primarily as a residence. In 1957, the Site was purchased and was used as a horse breeding ranch until the early 2000s. In 2016, a fire destroyed most of the Site structures, which were later demolished. Only a groundwater well pump house remains on the Site. The following Recognized Environmental Conditions (RECs) were identified during the Phase II TBA:

- Lead concentrations in soil and debris piles exceeded the specified human health screening levels in seven areas at the Site.
- Mercury concentrations exceeded the specified human health screening levels in soil at the former residence.
- Total petroleum hydrocarbons (TPH) as diesel (TPH-d) and TPH as motor oil (TPH-mo) were detected in soil samples from the former garbage burning area at concentrations exceeding the specified human health screening levels.

- Polycyclic aromatic hydrocarbons (PAHs) concentrations exceeded the specified human health screening levels in one area at the Site.

- The calculated Toxicity Equivalents (TEQ) of 2,3,7,8-tetrachlorodibenzodioxin (TCDD) for dioxins and furans in soil exceeded the TCDD human health screening levels in three areas. The TCDD concentrations themselves do not exceed screening levels and the calculated TEQ concentrations do not exceed the Department of Toxic Substances Control (DTSC) Human and Ecological Risk Office (HERO) Note 2 concentration of 50 picogram per gram for Residential Dioxin-TEQ Soil Remedial Goals for Sites in California. (DTSC, 2017).

- Asbestos was detected in samples collected from the debris pile in the former horse stable area at concentrations of 10 percent (%) to 30%, exceeding the human health screening level of 1%.

- Metals concentrations in groundwater samples collected from the well were detected above screening levels for tapwater.

Table ES-1 summarizes the cleanup options identified to address these concerns in order to protect human health from unacceptable exposures. Site locations associated with the ABCA alternatives are shown on Figure ES-2. The cost estimates presented in this ABCA are rough order-of-magnitude estimates that were prepared solely for the comparison of the identified alternatives and should not be used as design-level estimates.

Table ES-1
Summary and Comparison of Cleanup Alternatives

Alternative	Actions	Effectiveness	Implementability	Cost [1]	Considerations
1: No Action	None	Low	Easy	None	This alternative will not address potential human health concerns for the planned Site reuse and restoration actions.
2: Soil Capping, Removal of Stockpiled Debris, Water Supply Well Closure with ICs	• Remove stockpiles containing burned debris. • Install a cover over areas that exceed Residential screening levels. • Decommission the well and connect to the municipal water system. • Implement ICs requiring monitoring and maintaining the integrity of the cap and restricting future drinking water supplies to off-site sources unless additional groundwater characterization is performed.	Moderate	Moderately Easy	$920,000	The contaminated soil would remain in place. If the soil cap is not maintained, it may degrade over time and thus no longer mitigate potential exposure.
3: Soil Excavation, Removal of Stockpiled Debris, Confirmation Sampling, and Off-Site Disposal, Water Supply Well Closure with ICs	• Remove stockpiles containing burned debris. • Excavate soils that exceed Residential screening levels. • Perform confirmation soil sampling and analysis to confirm the cleanup goals are achieved. • Characterize excavated soil for disposal in accordance with the assumed receiving facility requirements and applicable regulations. • Decommission the well and connect to the municipal water system. • Implement ICs restricting future drinking water supplies to off-site sources unless additional groundwater characterization is performed.	Moderately high	Moderately Easy	$1,400,000	Based on preliminary soil waste profile sampling, portions of the excavated soil and debris may be a California hazardous waste. The soil would be transported to an appropriate landfill.
4: Capping of Contaminated Soils that Exceed Commercial/Industrial Screening Levels, Water Supply Well Closure with ICs	• Install a cover over areas that exceed Commercial/Industrial screening levels. • Decommission the well and connect to the municipal water system. • Implement ICs requiring monitoring and maintaining the integrity of the cap, restricting future Site use	Low to Moderate	Moderately Easy	$630,000	The contaminated soil would remain in place. If the soil cap is not maintained, it may degrade over time and thus no longer mitigate potential exposure.

Table ES-1
Summary and Comparison of Cleanup Alternatives (Continued)

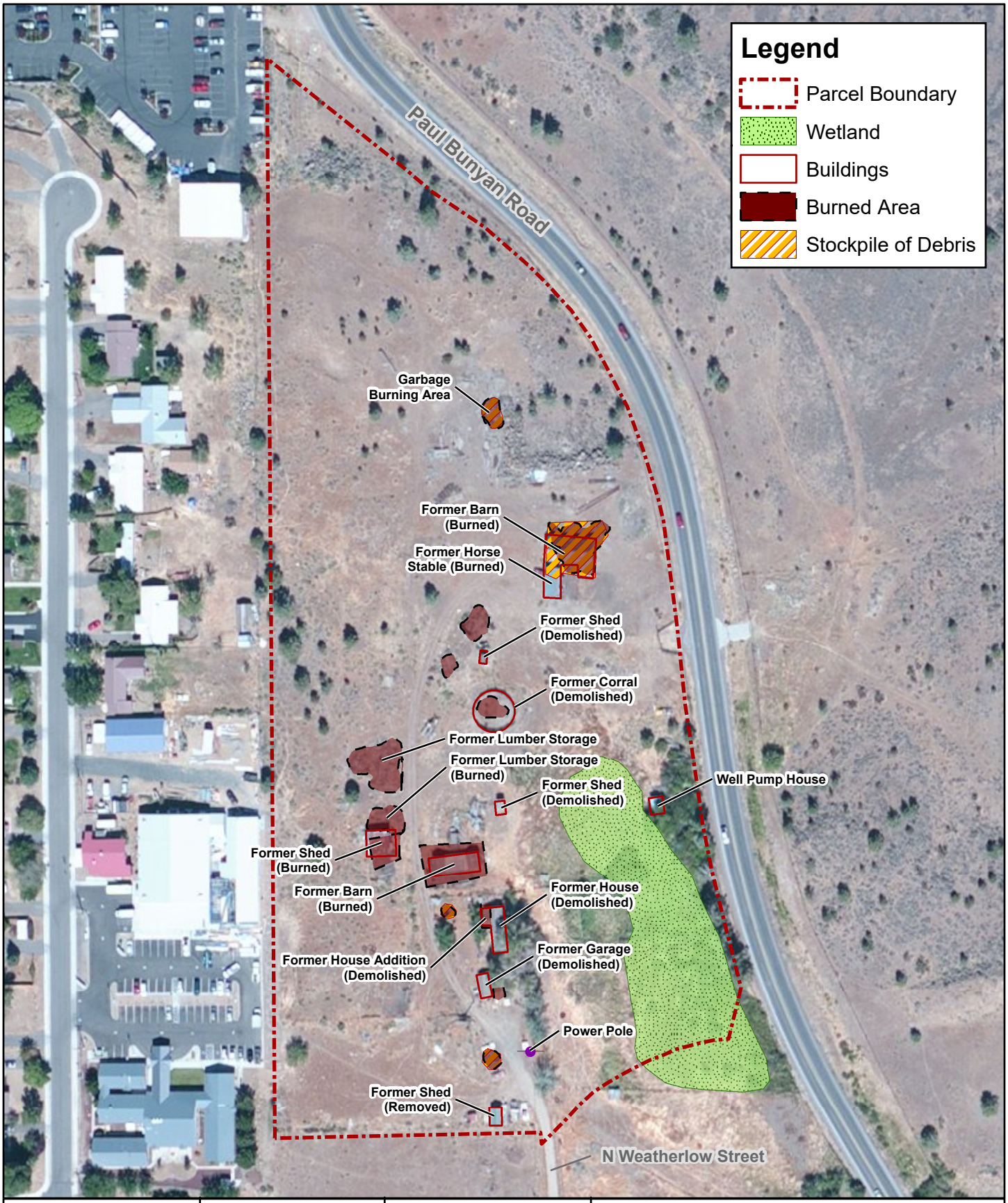
Alternative	Actions	Effectiveness	Implementability	Cost [1]	Considerations
	from residential exposure scenarios unless further actions are performed, and restricting future drinking water supplies to off-site sources unless additional groundwater characterization is performed.				
5: Excavation of Contaminated Soils that Exceed Commercial/Industrial Screening Levels, Confirmation Sampling, and Off-Site Disposal, Water Supply Well Closure with ICs	• Excavate soils that exceed Commercial/ Industrial screening levels. • Perform confirmation soil sampling and analysis to confirm the cleanup goals are achieved. • Characterize excavated soil for disposal in accordance with the assumed receiving facility requirements and applicable regulations. • Decommission the well and connect to the municipal water system. • Implement ICs restricting future Site use from residential exposure scenarios unless further actions are performed and restricting drinking water supplies to off-site sources unless additional groundwater characterization is performed.	Moderate	Moderately Easy	$1,200,000	Based on preliminary soil waste profile sampling, portions of the excavated soil and debris may be a California hazardous waste. The soil would be transported to an appropriate landfill.

Notes:

[1] The cost estimates presented in this ABCA are rough order-of-magnitude estimates that were prepared solely for the relative comparison of the identified alternatives and should not be used as design-level estimates.

ABCA = Analysis of Brownfields Cleanup Alternatives

IC = institutional control



0 Scale in Feet 150

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FIGURE ES-1
SITE LAYOUT MAP
Susanville Indian Rancheria
North Weatherlow Street - 477-280
Analysis of Brownfields Cleanup Alternatives
Susanville, Lassen County, California

Contract: EP-S5-13-02; TDD: 0006/1302-T6-R9-17-06-0001

Document Control No.: 0154-08-ABSU

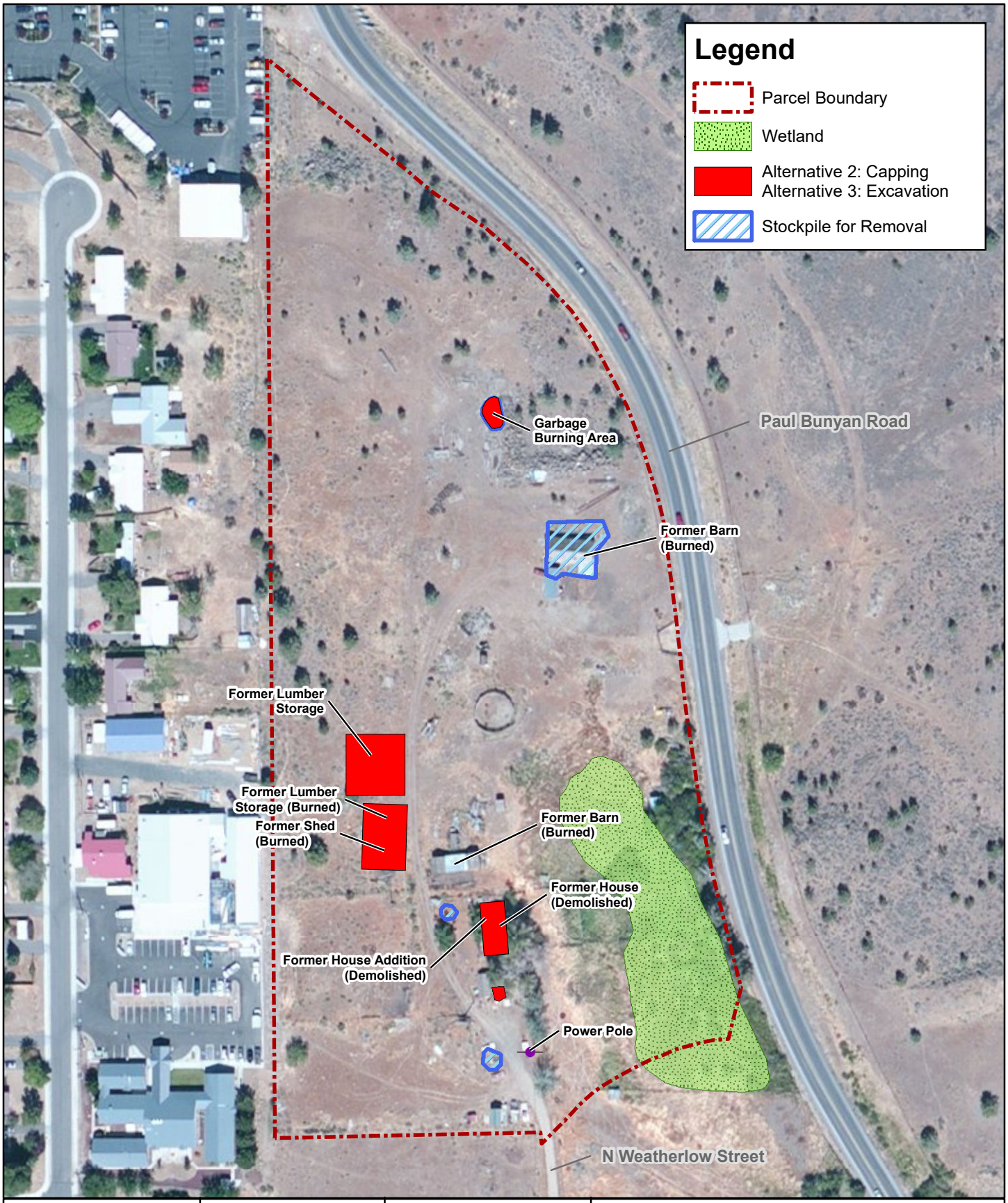

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FIGURE ES-2
ALTERNATIVES 2 AND 3
Susanville Indian Rancheria
North Weatherlow Street - 477-280
Analysis of Brownfields Cleanup Alternatives
Susanville, Lassen County, California

Contract: EP-S5-13-02; TDD: 0006/1302-T6-R9-17-06-0001

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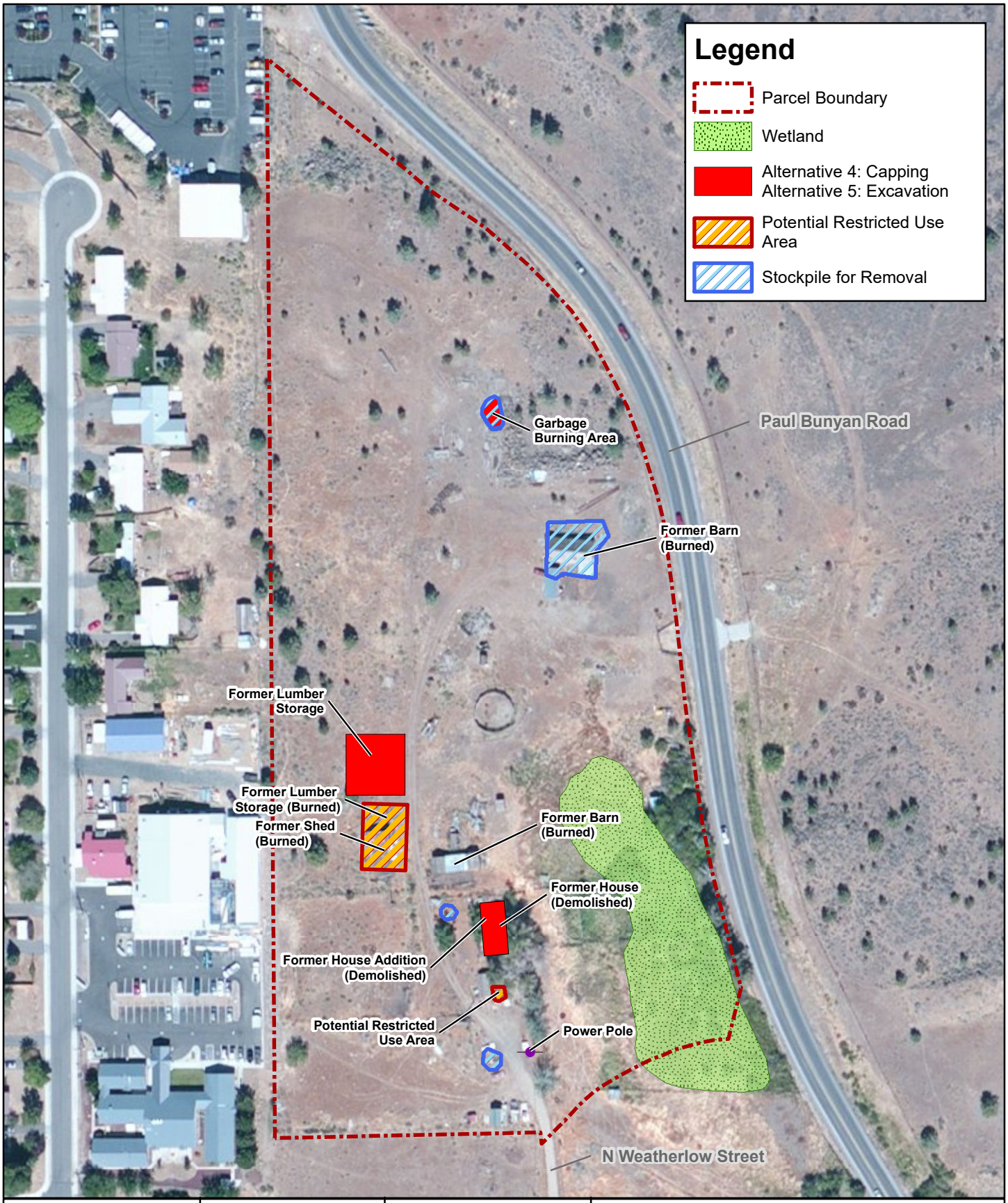

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FIGURE ES-3
ALTERNATIVES 4 AND 5
Susanville Indian Rancheria
North Weatherlow Street - 477-280
Analysis of Brownfields Cleanup Alternatives
Susanville, Lassen County, California

Contract: EP-S5-13-02; TDD: 0006/1302-T6-R9-17-06-0001

Document Control No.: 0154-08-ABSU

1. INTRODUCTION AND BACKGROUND

The U.S. Environmental Protection Agency (EPA), Region 9 tasked Weston Solutions, Inc., (WESTON®) under EPA Contract EP-S5-13-02 to conduct an Analysis of Brownfields Cleanup Alternatives (ABCA) for the property located at 477 to 280 North Weatherlow Street in Susanville, Lassen County, California, herein after referred to as the Site. The Site location is shown on Figure 1. The ABCA is intended to be used in conjunction with the Targeted Brownfields Assessment (TBA), which included preparation of a Phase II Environmental Site Assessment (ESA) Report (WESTON, 2018). The purpose of this ABCA is to propose and evaluate possible remedial alternatives based on known Site conditions and the anticipated reuse of the Site. This evaluation will be expanded, modified if necessary, and incorporated into the final Site Cleanup Plan for review by the community and project partners.

1.1 SITE LOCATION

The Site is located at 477-280 North Weatherlow Street in Susanville, Lassen County, California (Figure 1), and consists of one parcel identified as Lassen County Assessor's Parcel Number 103-190-09-11. The geographic coordinates for the approximate center of the Site are 40° 25' 41" North latitude and 120° 39' 19" West longitude. The Site is bordered to the northwest by the Diamond Mountain Casino, Mini-Mart, and gas station; to the northeast by vacant land; to the west by Susanville Indian Rancheria facilities and multiple private residences; to the east by Paul Bunyan Road and vacant land; and to the south by vacant land.

The Site is approximately 10.45 acres in size. In 2016, a fire destroyed most of the Site structures. The remaining uninhabitable Site structures have since been demolished. The only remaining structure is the well pump house, an approximately 100-square-foot, painted building that did not appear to have fire damage. Currently, the Site is unoccupied and includes four main debris piles containing consolidated burned material from the residence, stables, sheds, and garbage. In addition, burned lumber piles are located on the western portion of the Site, and a wetlands area is located on the southeastern portion of the Site. A downed power pole is located south of the residence. The current Site layout is presented on Figure 2.

1.2 OWNERSHIP AND PREVIOUS USE

In 1957, the Site was purchased, and subsequently developed and used as a horse breeding ranch until the early 2000s (Terracon, 2015). The Site was purchased in 2015 by Susanville Indian Rancheria Corporation (SIRCO) and was donated to Susanville Indian Rancheria (SIR) in January 2016. The property was utilized as a residence in the late 1940s and early 1950s. Since the Site was purchased in 2015 by SIRCO, it has been unoccupied. In 2016, a fire destroyed most of the Site structures, which were later demolished. Only a groundwater well pump house remains on the Site.

1.3 PREVIOUS INVESTIGATIONS

In 2015, Terracon Consultants, Inc. (Terracon) conducted a Phase I ESA of the Site for SIRCO (Terracon, 2015). The Phase I report identified several debris piles throughout the Site. Because

inspections beneath the debris piles were not conducted during the Phase I ESA, the debris piles are considered to be a Recognized Environmental Condition (REC) for the Site.

1.4 PHASE II ENVIRONMENTAL SITE ASSESSMENT

As part of the TBA, WESTON conducted a Phase II ESA to further assess Site conditions. Portions of the Site that were considered the most likely to contain contaminants (e.g., former garbage and residential burn areas, debris piles, and the existing well) were identified as sequentially numbered decision units (DUs) (labeled as DU-01 through DU-12). Samples were collected from each unit. Sample methods and procedures and data quality objectives used during the assessment work are included in the Final Sampling and Analysis Plan, Susanville Indian Rancheria, 477-280 North Weatherlow Street, Susanville, Lassen County, California, (WESTON, 2017). Additional details of the assessment work are included in the Draft Phase II Environmental Site Assessment, Targeted Brownfields Assessment Report, Susanville Indian Rancheria, 477-280 North Weatherlow Street, Susanville, Lassen County, California (WESTON, 2018).

The results of the ESA are presented on Figure 3, and relevant screening levels are presented in Section 2.

In DU-01 (the former garbage burning area), the following analytes exceeded their respective residential exposure scenario (residential) screening levels: lead in the soil stockpile; total petroleum hydrocarbons (TPH) as diesel (TPH-d) and TPH as motor oil (TPH-mo) in shallow subsurface samples collected at 1 to 2 feet below ground surface (bgs). TPH-d also exceeded an applicable commercial or industrial exposure scenario (commercial) screening level in DU-01.

In DU-02 (the former horse stables), lead in the soil stockpile exceeded the residential screening level. Samples collected from the burned debris pile, consisting of asbestos-containing materials (ACM), including transite siding, composite shingles, and cementitious materials, contained 10 percent (%) to 30% asbestos, and thus also exceeded human health screening levels. Detected concentrations of lead also exceeded the California Department of Toxic Substance Control (DTSC) Screening Level (DTSC-SL) for soil in a commercial exposure scenario.

Samples from DU-05 (the burned lumber pile/former shed area) contained five types of polycyclic aromatic hydrocarbons (PAHs), benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, dibenz(a,h)anthracene, and indeno[1,2,3-cd]pyrene, in exceedance of their respective residential screening levels. Detected concentrations were less than commercial screening levels for all analytes except benzo[a]pyrene.

Samples from DU-07 and DU-11 (the former residence) contained concentrations of lead in surface and shallow subsurface samples (1 to 2 feet bgs) above the residential screening level. DU-11 also contained concentrations of mercury exceeding DTSC-SL for residential soil. Lead concentrations in both DUs also exceed the DTSC limit for commercial exposures to lead in shallow soil.

DU-08 (the former garage) contained concentrations of lead exceeding their respective residential screening levels. Detected concentrations were less than commercial screening levels for all analytes.

In DU-09, both debris stockpiles contained concentrations of lead above residential human health screening levels. Detected concentrations were less than commercial screening levels for all analytes.

The Toxic Equivalent (TEQ) of 2,3,7,8-tetrachlorodibenzodioxin (TCDD) was calculated for dioxins and furans. In accordance with the procedure, the TEQs were summed and the sum was compared to residential screening levels for TCDD. The TEQ was greater than the TCDD screening level for residential use in surface soils in DU-04 (the former lumber piles), DU-07 (burned portion of the residence), and DU-08 (the former garage). The TCDD concentrations themselves at these locations do not exceed screening levels, and the calculated TEQ concentrations do not exceed the Department of Toxic Substances Control (DTSC) Human and Ecological Risk Office (HERO) Note 2 concentration of 50 picogram per gram for Residential Dioxin-TEQ Soil Remedial Goals for Sites in California. (DTSC, 2017). It was assumed that if these materials are removed from the Site, they would need to be disposed of as hazardous waste. Detected concentrations were less than commercial screening levels for all analytes.

Estimated costs would increase if higher concentrations are detected in waste disposal samples, and they are subject to land disposal restrictions (LDRs) in accordance with 40 Code of Federal Regulations (CFR) Sections 264-268. If LDRs apply, treatment such as incineration may be required prior to disposal.

Lead concentrations detected in a soil sample from the residence (DU-11) exceeded the Total Threshold Limit Concentrations (TTLC) regulatory limit; therefore, if soil from the residence dripline is removed from the Site for off-Site disposal, it is assumed that the soil will need to be managed as a Resource Conservation and Recovery Act (RCRA) hazardous waste. Waste characterization analysis also determined that soil samples from the former horse stables area stockpile (DU-02) and the former garage (DU-08) exceeded Soluble Threshold Limit Concentration (STLC) regulatory limits; therefore, soil from these areas may need to be managed as a California hazardous waste if it is removed for off-Site disposal.

Arsenic and cobalt were detected at concentrations exceeding screening levels for residential soils in all 35, and in 6 out of 35 samples, respectively. However, detected concentrations fell within the range of regional background concentrations for soil in the Susanville area and are, therefore, not considered an exceedance for the planned reuse.

Additionally, two groundwater samples collected from the on-Site well contained heavy metals, including arsenic, barium, chromium, copper, lead, molybdenum, nickel, vanadium, and zinc, at concentrations exceeding human health screening levels for residential tapwater. Therefore, contaminated groundwater is a potential REC.

1.5 PROJECT GOAL

The project goal is to mitigate the identified contaminants to levels protective of human health based on residential Site reuse. The proposed plan is to redevelop the Site as a commercial and cultural space, potentially including a parking lot on the northern portion of the property and an area for powwows in the southern portion. Although commercial screening levels would be considered appropriate for this reuse, and neither residences nor a garden growing food are ever

anticipated for the Site, cleanup to a standard protective of residential or commercial exposure scenario users was requested by SIR. This will allow land use decisions based on which standard is desirable and/or required.

This ABCA addresses contaminants of concern (asbestos, lead, mercury, PAHs, petroleum hydrocarbons, and dioxins and furans) only. General building renovations will not be discussed in this document, and costs for those improvements are neither considered nor included in the evaluation presented herein.

2. APPLICABLE REGULATIONS AND CLEANUP STANDARDS

2.1 CLEANUP OVERSIGHT RESPONSIBILITY

The SIR is the applicant for the Site and is responsible for directing any cleanup of contamination. Site cleanup and redevelopment should be conducted considering the laws, regulations, and procedures described below. The EPA, California DTSC, State Water Resources Control Board, and Regional Water Quality Control Boards (RWQCB) have the authority to regulate cleanup of polluted/contaminated sites in California. In order to improve the coordination between agencies on oversight of Brownfields cleanups, a Memorandum of Agreement was signed on March 1, 2005. The Memorandum of Agreement describes the process and considerations used to determine the appropriate lead agency for a particular Brownfields site. It is WESTON's understanding that at this time the lead regulatory agency has not been determined for the Site.

2.2 CLEANUP STANDARDS FOR MAJOR CONTAMINANTS

For the purpose of this ABCA, cleanup standards for the soil at the Site were assumed to be the applicable residential screening levels used in the Phase II TBA (WESTON, 2018) or the applicable commercial screening levels listed herein:

- Cleanup standards for lead and mercury in the soil at the Site are based on their respective EPA RSLs for residential and commercial industrial soil exposure scenarios (EPA, 2018a), and similar the California DTSC-SLs for residential and commercial soil exposures (DTSC, 2018), and the RWQCB Environmental Screening Levels (ESLs) for residential and commercial scenario direct exposures to shallow soils (RWQCB, 2016).

- Cleanup standards for TPH-d and TPH-mo in the soil at the Site are based on their respective EPA RSL for residential soil of 110 milligrams per kilogram (mg/kg) and 2,500 mg/kg (EPA, 2018a) and the RWQCB Environmental Screening Level (ESL) for residential shallow soil of 230 mg/kg (1,100 mg.kg for TPH-d in a commercial exposure scenario) and 5,100 mg/kg, respectively (RWQCB, 2016).

- Cleanup standards for PAHs in the soil at the Site are based on EPA RSL for residential soil (EPA, 2018a) and the RWQCB ESLs for residential and commercial shallow soils (RWQCB, 2016).

- Cleanup standards for TEQ for dioxins in soil at the Site are based on the TCDD EPA RSL for residential and commercial soils (EPA, 2018a), and the California DTSC-SLs for residential and commercial soil (DTSC, 2018), and the RWQCB ESL for residential and commercial scenario direct exposures to shallow soil (RWQCB, 2016). The Department of Toxic Substances Control (DTSC) Human and Ecological Risk Office (HERO) Note 2 concentration of 50 picogram per gram for Residential Dioxin-TEQ Soil Remedial Goals for Sites in California. (DTSC, 2017) may also be applicable.

- The cleanup standard of 1% asbestos for ACM in the debris piles is based on the EPA Asbestos-Containing Materials in Schools, Final Rule and Notice (EPA, 1987). Although

this rule is in place primarily to protect child-occupied facilities, following the guidelines within the rule is encouraged for all building renovations for the overall protection of human health.

2.3 LAWS AND REGULATIONS APPLICABLE TO THE CLEANUP

This section is for informational purposes only, and the TBA applicant (or the party undertaking the cleanup) is responsible for ensuring compliance with all applicable laws and regulations.

The U.S. Department of Labor Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) standard codified at 29 CFR 1910.120 should be complied with when conducting cleanup activities at the Site. The HAZWOPER standard applies to cleanup operations required by federal, state, local, or other governmental body involving hazardous substances.

National Emission Standards for Hazardous Air Pollutants (NESHAP) are outlined in CFR Title 40 Chapter I Subchapter C Part 61 Subpart M. OSHA regulations regarding asbestos exposure during construction activities (i.e., renovation and demolition) are outlined in CFR Title 29 Subtitle B Chapter XVII Part 1926.1101, and OSHA regulations regarding respiratory protection are outlined in CFR Title 29 Subtitle B Chapter XVII Part 1910.134. A NESHAP notification form must be submitted at least 10 working days prior to the beginning of renovation or demolition activities involving ACMs. This notification form must include information regarding the company that performed the ACM survey, the analytical laboratory, the company performing the demolition or renovation activities, the company transporting waste that contains asbestos, and the landfill where the waste that contains asbestos will be disposed. It is recommended that removal and disposal of ACM in the debris piles be conducted by a company with asbestos-certified personnel trained to handle and dispose of ACM.

Federal laws and regulations applicable to this cleanup may include the Small Business Liability Relief and Brownfields Revitalization Act and the Davis-Bacon Act. Federal, state, local, and tribal laws regarding procurement of contractors to conduct the cleanup may also be applicable.

3. EVALUATION OF BROWNFIELDS CLEANUP ALTERNATIVES

3.1 CLEANUP ACTION OBJECTIVES

The cleanup action objective is to mitigate potential exposure of the identified contaminants to levels protective of human health in a residential exposure scenario for the specific areas described in Section 3.2 that were identified as part of the Phase II assessment work. The proposed cleanup alternatives and associated costs described herein may change if a different exposure scenario or exposure frequency/duration is selected, new characterization data are available, or a human health risk assessment is performed.

3.2 IDENTIFICATION OF CLEANUP ALTERNATIVES

Cleanup alternatives selected for evaluation were first assessed to determine whether the alternative would achieve the overall project goal to mitigate the identified contaminants and environmental conditions to levels appropriate for residential reuse. Those alternatives deemed potentially capable of achieving the overall project goal were further evaluated for effectiveness, implementability, and cost. Alternatives that were considered, but eliminated from further evaluation, are discussed in Table 3-1.

Table 3-1
Alternatives That Were Considered and Dismissed

Alternative	Actions	Considerations
Bioremediation	Introducing organisms, (e.g., microorganisms) to the contaminated soil so that they may consume and break down pollutants, or transform them into a less bioavailable form.	A single type of bioremediation technology is unlikely to work with multiple types of contaminants. Therefore, due to the different types of contaminants at the Site, it is likely that multiple types of bioremediation would be required. Additionally, as elements that cannot be broken down into simpler forms, lead and mercury can be difficult to bioremediate. Because it is not a standard technology, regulatory agencies are likely to require bench- and pilot-scale testing, including periodic laboratory analysis of soil samples prior to authorizing full-scale implementation. These tests are likely to increase the cost and duration of the project such that it would be much more expensive than the more conventional methods evaluated in this ABCA. This extra time would mean additional delay in Site reuse and would likely result in increased costs. Because of the high cost, long duration, potential loss of the use of a large portion of the property during remediation, and uncertainty regarding new and untested technologies, bioremediation was considered and rejected.
Phytoremediation	Use plants to uptake selected contaminants. Typically takes 2-4 years to reduce the contaminants in soils to acceptable levels.	Phytoremediation of lead, mercury, and PAHs is not a standard remedial method. Because it is not a standard technology, regulatory agencies are likely to require bench- and pilot-scale testing, including periodic laboratory analysis of soil samples prior to authorizing full-scale implementation. These tests are likely to increase the cost and duration of the project such that it would be much more expensive than the more conventional methods evaluated in this ABCA.

Table 3-1
Alternatives That Were Considered and Dismissed (Continued)

Alternative	Actions	Considerations
		Phytoremediation requires that the plants root in the impacted soil, which would presumably greatly reduce the usable area of the property during remediation. Additionally, it is unclear what would need to occur with the plant materials upon completion. Because of the high cost, long duration, loss of use of a large portion of the property during remediation, and uncertainty regarding new and untested technologies, phytoremediation was considered and rejected.

Table 3-2 summarizes the contaminants of concern found in each DU that will be addressed by the alternatives that follow.

Table 3-2
Summary of Screening Level Exceedances by Decision Unit

Assessment Area	Decision Unit	Approximate Area in Square Feet	Assumed Depths in Feet	Exceeds Residential SL For the Following Contaminants of Concern	Exceeds Commercial SL For the Following Contaminants of Concern
Former Garbage Burning Area	DU-01	1,870	2	Lead, TPH-d, TPH-mo,	TPH-d
Former Barn and Stable	DU-02	5,810	1	Lead, ACM	Lead
Burned Lumber Piles	DU-04	4,553	1	dioxins	--
Burned Shed	DU-05	3,661	1	PAHs	PAHs
Burned Portion of Residence	DU-07	1,651[1]	1	Lead, dioxins	Lead
Burned Garage Debris	DU-08	2,455	1	Lead, dioxins	
Burned Debris Piles	DU-09[2]	2,505	1	Lead,	--
Former Residence	DU-11	1,651[1]	1	Lead, Mercury	Lead
Well House	DW-1		100	Metals in Groundwater[3]	Metals in Groundwater[3]

Notes:

1. Includes both DU-07 & DU-11.
2. Includes both DU-09N and DU-09S.
3. Exceeds Maximum Contaminant Limit for drinking water.

SL = Screening Level, San Francisco Bay Regional Water Quality Control Board Environmental Screening Level for Direct Exposure to Shallow Soil (Table S-1), February 2016.

-- = does not exceed SL.

In developing the range of alternatives, it was assumed that for those alternatives that involve leaving contaminants in place, institutional controls (ICs) will be necessary to ensure continued protection to human health and the environment. It was also assumed that because contamination was detected in the water sample from the well (DW-1), and it reportedly does not sustain a 1-gallon per minute pumping rate, it has not been used for years, and the infrastructure around it is in poor shape, the well would need to be properly decommissioned prior to Site reuse.

Furthermore, it was assumed that a new water supply line would need to be installed and connected to the nearest municipal drinking water source. The nearest source is located on the Diamond Mountain Casino & Hotel property (also owned by the SIR) approximately 400 feet northwest of the Site.

Because only decommissioning the well may leave contamination in place, ICs may be necessary to restrict the source of water at the Site to municipal and other off-site sources.

The following cleanup alternatives were evaluated:

Alternative 1: No Action

Alternative 2: Soil Capping, Removal of Stockpiled Debris, Water Supply Well Closure with ICs

Alternative 3: Soil Excavation, Removal of Stockpiled Debris, Confirmation Sampling, and Off-Site Disposal, Water Supply Well Closure with ICs

Alternative 4: Capping of Contaminated Soils and Debris that Exceed Commercial/Industrial Screening Levels, Water Supply Well Closure with ICs

Alternative 5: Excavation of Contaminated Soils and Debris that Exceed Commercial/Industrial Screening Levels, Confirmation Sampling, and Off-Site Disposal, Water Supply Well Closure with ICs

The cost estimates presented in this document are rough order-of-magnitude estimates that were prepared solely for the comparison of the identified alternatives and should not be used as design-level estimates. Costs for general rebuilding and improvements (e.g., constructing a cultural area for the powwows) are not included. Descriptions of each of the above alternatives and the results of the comparative analysis are presented in the following sections. Regulatory agencies were not contacted, and Site-specific cleanup action levels were not established.

3.2.1 Alternative 1 – No Action

Alternative 1 No Action is included as a baseline for comparison to all other proposed alternatives. The No Action Alternative assumes the contaminated soils and ACM in debris piles would remain in place and the contaminated well water would not be abated or otherwise addressed.

Effectiveness: This option will not provide mitigation of the potential human health or environmental concerns. If no corrective action is taken, the identified contamination is likely to prohibit construction for reuse — at a minimum, regulatory interaction and approval would be required. The effectiveness of Alternative 1 was ranked as low.

Implementability: This alternative is easily implemented.

Cost: No costs would be incurred during the implementation of this alternative.

3.2.2 Alternative 2: Soil Capping, Removal of Stockpiled Debris, Water Supply

Well Closure with ICs

Under Alternative 2, a cover would be installed in the Former Garbage Burning Area (DU-01), Burned Lumber Piles (DU-04), Burned Shed (DU-05), Burned Portion of Residence (DU-07), Burned Garage Debris (DU-08), and Former Residence (DU-11) over the areas with soil that exceed residential screening levels, and the stockpiles from the Former Garbage Burning Area (DU-01), Former Barn and Stable (DU-02), and Burned Debris Piles (DU-09) containing burned debris would be removed. In addition, confirmation and characterization samples would be collected to ensure the contamination from stockpiles had been removed, the well at DW-1 would be decommissioned, the Site would be connected to municipal water, and ICs would be implemented (Figure 4).

Prior to installing the cover, the four stockpiles of burned debris would be removed, including incidental material to a depth of 6 inches below the stockpiles. For the purposes of estimating costs, all debris piles were assumed to be an average of 2-feet-thick. Because the stockpile in DU-02 contains ACM, removal of the debris in this area should be conducted by a company with asbestos-certified personnel trained to handle and dispose of ACM. Waste characterization analysis from a soil sample collected from the DU-02 stockpile exceeded the STLC regulatory limit of 5 milligrams per liter (mg/L); therefore, this stockpile would likely need to be managed and disposed of as hazardous waste. For the purposes of this ABCA, it was assumed that the other three stockpiles can be disposed of as non-hazardous waste. Confirmation samples will be collected from the excavation perimeter and the bottoms of DU-02 and DU-09 to ensure the impacted media have been removed.

Once the stockpiles have been removed, a cap will be installed over areas with remaining impacted media, including DU-01. The assumed areas of the caps were based on the areas included in Table 3-2, with an added 10-foot offset. The installed cap will be either an impermeable (e.g., asphalt or concrete) or semipermeable (e.g., soil) cover that will serve to interrupt the contact pathway with the contaminated soil, thus mitigating exposure. For the purposes of cost estimating for this ABCA, a semipermeable cap was assumed. To install the cap, vegetation would be removed and soil would be graded, compacted, and covered with a minimum of 18 inches of clean soil. Disturbed areas would be stabilized and reseeded to prevent soil erosion. Once the area is stabilized and vegetation is established, it could be used for recreational or cultural uses, as long as the cover remains intact.

The well will be decommissioned by removing surface features, drilling out or otherwise destroying the casing and annular space material, and tremie grouting the well to prevent future use. For the purposes of this ABCA, it was assumed that the Site could be connected to the municipal water source running along Joaquin Street, west of the Site, by installing an approximately 700-foot section of piping. Because this process leaves contaminants in place, ICs may be necessary to restrict the use of groundwater on the Site.

This option does not remove the contaminated soil; therefore, the cover would have to be maintained because a state of disrepair might render the cap less effective. ICs, such as periodic inspection and maintenance of the cap, would be necessary to ensure the remedy remains protective. Additional deed restriction ICs may be necessary to restrict the future water use of the Site to municipal and other off-site sources.

Effectiveness: Capping will mitigate human health risks from lead, mercury, PAHs, and dioxins/furans by preventing dermal contact and fugitive dust emissions. Decommissioning the well and using an alternative off-site water source would also leave contaminated media in place while mitigating human health risks from heavy metals. Because the protectiveness of the caps may diminish if they are not properly maintained, the effectiveness of Alternative 2 is ranked moderate.

Implementability: This alternative includes removing burned debris, installing a semipermeable cover, decommissioning a well, and connecting to municipal water. Connecting to municipal water may affect access to streets and cause minor temporary disruptions to local residents. The materials, equipment, and personnel required are easily obtainable and are standard industry practices. Access to streets would be minimally affected, with minor disruption to the local residents during periods of heavy off-Site hauling and or import of contaminated soils. It is expected that additional design and regulatory or engineering review would be necessary prior to the approval to install a soil cap. Because of the additional design and review work required, the implementability of this alternative is considered moderate.

Cost: The estimated cost of Alternative 2 is $920,000. Costs would decrease by approximately $170,000 if a new water line were not installed. Costs would also decrease if waste profile sampling results indicate waste can be disposed of as non-hazardous, contaminated waste.

3.2.3 Alternative 3: Soil Excavation, Removal of Stockpiled Debris, Confirmation Sampling, and Off-Site Disposal, Water Supply Well Closure with ICs

Under Alternative 3, soils with contaminant concentrations that exceed Site screening levels would be excavated, and the stockpiles containing burned debris would be removed. In addition, confirmation samples would be collected to ensure the contaminated soil and debris piles had been removed, the excavated soil and debris piles would be characterized, the well would be decommissioned, the Site would be connected to municipal water, and ICs would be implemented (Figure 4). ICs may be necessary to restrict the future water use of the Site to municipal and other off-site sources.

The four stockpiles of burned debris from the Former Garbage Burning Area (DU-01), Former Barn and Stable (DU-02), and Burned Debris Piles (DU-09) would be removed, including an additional assumed 6 inches of the surface soil beneath the stockpiles to ensure full removal. Because the stockpile in DU-02 contains ACM, removal of the debris in this area should be conducted by a company with asbestos-certified personnel trained to handle and dispose of ACM.

The targeted soil excavation, confirmation sampling, and off-site disposal would remove soil that exceeds residential screening levels. The assumed areas of each excavation were based on the areas included in Table 3-2. The soil around the Burned Lumber Piles (DU-04), Burned Shed (DU-05), Burned Garage Debris (DU-08), and Former Residence (DU-11) would be excavated to an assumed maximum depth of 1 foot bgs. The soil around the Former Garbage Burning Area (DU-01) and Burned Portion of Residence (DU-07) would be excavated to a maximum depth of 2 feet. After excavation, one 4-point composite sample per 20-foot by 20-foot grid will be collected for analysis of compounds relevant for each area, including lead, PAHs, mercury,

dioxins/furans or petroleum hydrocarbons, including TPH-g in DU-07. Four 4-point composite samples per 20-foot by 20-foot grid will also be collected from the stockpile areas for analysis of asbestos the Former Barn and Stable (DU-02 only), lead, and PAHs (DU-05 only). Costs would increase if contamination is present at depths greater than what was assumed and additional excavation is necessary.

The excavated soil would be stockpiled on-site pending laboratory analysis for waste characterization. Waste characterization analysis from a soil sample collected from the stockpile in DU-02 and a soil sample from DU-08 exceeded the STLC regulatory limits of 5 mg/L. Therefore, soils from these areas may need to be managed as a California hazardous waste. Lead concentrations detected in a soil sample from DU-11 exceeded California State TTLC; therefore, soil from the residence dripline may need to be managed as hazardous waste if it is hauled for disposal. Additionally, samples with dioxin TEQs above the screening level were assumed to require disposal as hazardous waste (i.e., DU-04 and DU-07). For the purposes of this ABCA, to decrease the number of waste streams, it was assumed soil and debris from these five areas would be consolidated and stockpiled on-site, pending laboratory analysis for waste characterization (two waste characterization samples assumed). For the purposes of this ABCA, disposal costs for soil from DU-02, DU-04, DU-07, DU-08, and DU-11 were increased to account for disposal as California hazardous waste. Further testing of stockpiled soil may demonstrate that the soil could be classified as non-hazardous, which would decrease estimated disposal costs by as much as $200 per ton. Soil from the remaining excavation areas and stockpiles from DU-01, DU-05, and DU-09 will be consolidated and stockpiled on-site separately, pending laboratory analysis for waste characterization (two waste characterization samples assumed). For the purposes of this ABCA, disposal as a non-hazardous contaminated waste was assumed. The debris pile and excavated soil would then be transported off-site for disposal at appropriately licensed treatment/disposal facilities. The excavation areas would be backfilled and compacted with clean material appropriate for planned use.

The well will be decommissioned by removing surface features and pressure grouting the well to prevent future use. For the purposes of this ABCA, it was assumed that the Site could be connected to the municipal water source running along Joaquin Street, west of the Site, by installing an approximately 700-foot section of piping. Deed restriction ICs may be necessary to restrict the future water use of the Site to municipal and other off-site sources.

Effectiveness: Excavation and off-site disposal of contaminated soils and debris piles will permanently remove the threat of accidental ingestion and/or dermal contact to current and future Site users. Decommissioning the well and using an alternative off-site water source would leave contaminated media in place while mitigating human health risks from heavy metals. The effectiveness of Alternative 3 is ranked moderately high.

Implementability: This alternative includes removing burned debris, excavating impacted soil, decommissioning a well, and connecting to municipal water. Connecting to municipal water and off-Site trucking may affect access to streets and cause minor temporary disruption to local residents. The materials, equipment, and personnel required are easily obtainable and standard practices. Access to streets would be minimally affected, with minor disruption to the local residents during periods of heavy off-Site hauling and or import of contaminated soils. This alternative is moderately easy to implement.

Cost: The cost of Alternative 3 is estimated to be $1400,000. Costs would decrease by approximately $170,000 if a new water line is not installed. Costs would also decrease if waste profile sampling results indicate waste can be disposed of as non-hazardous, contaminated waste.

3.2.4 Alternative 4: Capping of Contaminated Soils and Debris that Exceed Commercial/Industrial Screening Levels, Water Supply Well Closure with ICs

Under Alternative 4, a cover would be installed in the Former Garbage Burning Area (DU-01), Burned Shed (DU-05), Burned Portion of Residence (DU-07), and Former Residence (DU-11) over the areas with soil that exceed commercial screening levels, and the stockpiles from DU-01 and Former Barn and Stable (DU-02) containing burned debris would be removed. In addition, confirmation and characterization samples would be collected to ensure the contamination from stockpiles had been removed, the well at DW-1 would be decommissioned, the Site would be connected to municipal water, and ICs would be implemented (Figure 4).

Prior to installing the cover, the stockpiles of burned debris would be removed, including incidental material to a depth of 6 inches below the stockpiles. For the purposes of estimating costs, all debris piles were assumed to be an average of 2-feet-thick. Because the stockpile in DU-02 contains ACM, removal of the debris in this area should be conducted by a company with asbestos-certified personnel trained to handle and dispose of ACM. Waste characterization analysis from a soil sample collected from the DU-02 stockpile exceeded the STLC regulatory limits of 5 micrograms per liter (mg/L); therefore, this stockpile would likely need to be managed and disposed of as hazardous waste. For the purposes of this ABCA, it was assumed that the other three stockpiles can be disposed of as non-hazardous waste. Confirmation samples will be collected from each excavation perimeter and the bottom to ensure the impacted media have been removed.

Once the stockpiles have been removed, a cap will be installed over areas with remaining impacted media. The assumed areas of the caps were based on the areas included in Table 3-2, with an added 10-foot offset. The installed cap will be either an impermeable (e.g., asphalt or concrete) or semipermeable (e.g., soil) cover that will serve to interrupt the direct contact and fugitive dust pathways between human receptors and contaminated soil, thus mitigating human exposure. For the purposes of cost estimating for this ABCA, a semipermeable cap was assumed. To install the cap, vegetation would be removed and soil would be graded, compacted, and covered with a minimum of 18 inches of clean soil. Disturbed areas would be stabilized and reseeded to prevent soil erosion. Once the area is stabilized and vegetation is established, it could be used for recreational or cultural uses, as long as the cover remains intact.

The well will be decommissioned by removing surface features, drilling out or otherwise destroying the casing and annular space material, and tremie grouting the well to prevent future use. For the purposes of this ABCA, it was assumed that the Site could be connected to the municipal water source running along Joaquin Street, west of the Site, by installing an approximately 700-foot section of piping. As this process leaves contaminants in place, ICs may be necessary to restrict the use of groundwater on the Site. ICs may also include restrictions on the use of certain areas of the Site or the entire Site may be restricted to non-residential uses.

This option does not remove all contaminated soil; therefore, the cover would have to be maintained because a state of disrepair might render the remedy less protective. ICs, such as periodic inspection and maintenance of the cap, would be necessary to ensure the remedy remains protective. Additional deed restriction ICs may be necessary to restrict the future water use of the Site to municipal and other off-site sources.

Effectiveness: Capping will mitigate human health risks from lead, PAHs, dioxins and by preventing dermal contact and fugitive dust emissions. ICs such as restricting Site uses to commercial exposure scenarios would need to be maintained for the remedy to remain adequately protective of human receptors. Decommissioning the well and using an alternative off-site water source would also leave contaminated media in place while mitigating human health risks from heavy metals. Because the protectiveness of the caps may diminish if they are not properly maintained and certain areas would still contain contaminants at concentrations that exceed residential standards, the effectiveness of Alternative 4 is ranked low to moderate. Decommissioning the well and using an alternative off-site water source would leave contaminated media in place while mitigating human health risks from heavy metals.

Implementability: This alternative includes removing burned debris, installing a semipermeable cover, decommissioning a well, and connecting to municipal water. Connecting to municipal water may affect access to streets and cause minor temporary disruptions to local residents. The materials, equipment, and personnel required are easily obtainable and are standard industry practices. Access to streets would be minimally affected, with minor disruption to the local residents during periods of heavy off-Site hauling and or import of contaminated soils. It is expected that additional design and regulatory or engineering review would be necessary prior to the approval to install a soil cap. Because of the additional design and review work required, the implementability of this alternative is considered moderate.

Cost: The estimated cost of Alternative 4 is $630000. Costs would decrease by approximately $170,000 if a new water line is not installed. Costs would also decrease if waste profile sampling results indicate waste can be disposed of as non-hazardous, contaminated waste.

3.2.5 Alternative 5: Excavation of Contaminated Soils and Debris that Exceed Commercial/Industrial Screening Levels, Confirmation Sampling, and Off-Site Disposal, Water Supply Well Closure with ICs

Under Alternative 5, soils with contaminant concentrations that exceed commercial screening levels would be excavated, and the stockpiles in DU-1 and DU-2 would be removed. In addition, confirmation samples would be collected to ensure the contaminated soil and debris piles had been removed, the excavated soil and debris piles would be characterized, the well would be decommissioned, the Site would be connected to municipal water, and ICs would be implemented (Figure 4). ICs may be necessary to restrict the future water use of the Site to municipal and other off-site sources.

The stockpiles in DU-01 and DU-02 would be removed, including an additional assumed 6 inches of the surface soil beneath the stockpiles. Because the stockpile in DU-02 contains ACM, removal of the debris in this area should be conducted by a company with asbestos-certified personnel trained to handle and dispose of ACM.

The targeted soil excavation, confirmation sampling, and off-site disposal would remove soil that exceeds residential screening levels. The assumed areas of each excavation were based on the areas included in Table 3-2. The soil around DU-05, DU-04, DU-11, and DU-08 would be excavated to an assumed maximum depth of 1 foot bgs. The soil around DU-01 and DU-07 would be excavated to a maximum depth of 2 feet. After excavation, one 4-point composite sample per 20-foot by 20-foot grid will be collected for analysis of compounds relevant for each area (lead or TPH-d). Four 4-point composite samples per 20-foot by 20-foot grid will also be collected from the stockpile areas for analysis of asbestos (DU-02 only), soluble and total lead, and PAHs (DU-05 only). Costs would increase if contamination is present at depths greater than what was assumed and additional excavation is necessary.

The excavated soil would be stockpiled on-site pending laboratory analysis for waste characterization. Waste characterization analysis from a soil sample collected from the stockpile in DU-02 exceeded the STLC regulatory limits of 5 mg/L. Therefore, soils from DU-02 may need to be managed as a California hazardous waste. Lead concentrations detected in a soil sample from DU-11 exceeded California State TTLC; therefore, soil from the residence dripline may need to be managed as hazardous waste if it is hauled for disposal. Additionally, samples with dioxin TEQs above the screening level were assumed to require disposal as hazardous waste (i.e., DU-07). For the purposes of this ABCA, to decrease the number of waste streams, it was assumed soil and debris from these areas would be consolidated and stockpiled on-site, pending laboratory analysis for waste characterization (two waste characterization sample sets assumed). For the purposes of this ABCA, disposal costs for soil from DU-02, DU-07, and DU-11 were increased to account for disposal as California hazardous waste. Further testing of stockpiled soil may demonstrate that the soil could be classified as non-hazardous, which would decrease estimated disposal costs by an estimated $200 per ton. Soil from the remaining excavation areas and stockpiles from DU-01, and DU-05 will be consolidated and stockpiled on-site separately, pending laboratory analysis for waste characterization (two waste characterization samples assumed). For the purposes of this ABCA, disposal as a non-hazardous contaminated waste was assumed. The debris pile and or excavated soil would then be transported off-site for disposal at appropriately licensed treatment/disposal facilities. The excavation areas would be backfilled and compacted with clean material appropriate for planned reuse.

The well will be decommissioned by removing surface features and pressure grouting the well to prevent future use. For the purposes of this ABCA, it was assumed that the Site could be connected to the municipal water source running along Joaquin Street, west of the Site, by installing an approximately 700-foot section of piping. ICs may be necessary to restrict the future water use of the Site to municipal and other off-site sources.

Effectiveness: Excavation and off-site disposal of contaminated soils and debris piles will permanently reduce the threat of accidental ingestion and/or dermal contact to current and future Site users. ICs such as restricting Site uses to commercial exposure scenarios would need to be maintained for the remedy to remain adequately protective of human receptors. Decommissioning the well and using an alternative off-site water source would leave contaminated media in place while mitigating human health risks from heavy metals. Although implementing Alternative 5 permanently removes the most threatening contaminants, since Site use must be restricted in order for the remedy to remain adequately protective, the effectiveness of Alternative 5 is ranked moderate.

Implementability: This alternative includes removing burned debris, excavating impacted soil, decommissioning a well, and connecting to municipal water. Connecting to municipal water and off-Site trucking may affect access to streets and cause minor temporary disruption to local residents. The materials, equipment, and personnel required are easily obtainable and standard practices. Access to streets would be minimally affected, with minor disruption to the local residents during periods of heavy off-Site hauling and or import of contaminated soils. This alternative is moderately easy to implement.

Cost: The cost of Alternative 3 is estimated to be $1,200,000. Costs would decrease by approximately $170,000 if a new water line is not installed. Costs would also decrease if waste profile sampling results indicate waste can be disposed of as non-hazardous, contaminated waste.

3.3 COMPARISON OF ALTERNATIVES

Alternative 1 No Action does not meet the project goal and, therefore, is dismissed without additional evaluation.

Because all soil and groundwater contaminants are permanently abated to levels considered protective in unrestricted use scenarios, Alternative 3 is considered the most protective. Alternatives 2, 4, and 5 are considered protective in the short- and long-term for the planned reuse of the property because they mitigate exposure to impacted soil and burned debris in the areas they target. However, because either some impacted media would remain on the Site, or these alternatives would require maintenance of a cap and ICs would be necessary to ensure the remedies remains protective, their long-term effectiveness is considered less than that of Alternative 3. Because it removes or encapsulates all contaminant concentrations greater than residential screening levels, Alternative 2 is considered more protective than Alternatives 4 or 5. Alternative 4 is the least protective of any of the alternatives considered.

Because of the increase in Site work and trucking, Alternative 3 is considered slightly less protective in the short term in comparison to Alternative 2. Because it permanently removes all soil contaminants above residential (i.e. the strictest) screening levels, its long-term protectiveness is the highest of any of the five Alternatives considered.

Alternatives 2 through 5 are relatively easy to implement. However, because of the increase in cap area and assumed additional regulatory scrutiny of alternatives that leave contaminants in place, and because of the increased need for long-term monitoring and maintenance, Alternatives 2, 4, and 5 are considered slightly more difficult to implement than Alternative 3. Alternatives 2 and 4 may be slightly more difficult to implement administratively because of the expected need for additional design and regulatory review of proposed capping measures.

The capital cost to implement Alternative 4 is less expensive than Alternative 3; however, it involves annual costs to inspect and maintain the cap.

3.4 REMEDIATION TECHNOLOGIES

EPA provides guidance for specific technologies that may be used for the remediation of hazardous wastes and other contaminants. Detailed links for EPA's remediation technology

guidance, as well as case studies and demonstrations, are available online at https://www.epa.gov/remedytech (EPA, 2018b).

3.5 CONSIDERATION OF CLIMATE CHANGE IMPACTS

Scientific evidence demonstrates that the climate is changing at an increasingly rapid rate, outside the range to which society has adapted in the past. These changes can pose significant challenges to EPA's ability to fulfill its mission. EPA must adapt to climate change if it is to continue fulfilling its statutory, regulatory, and programmatic requirements. EPA is therefore anticipating and planning for future climate changes to ensure it continues to fulfill its mission of protecting human health and the environment even as the climate changes.

In February 2013, EPA released its draft Climate Change Adaptation Plan to the public for review and comment. The plan relies on peer-reviewed scientific information and expert judgment to identify vulnerabilities to EPA's mission and goals from climate change. The Region 9 plan identifies vulnerabilities in Region 9, including lack of rainfall and the prospect of future droughts, reduction in groundwater supply, sea level rise, projected temperature increase and its impact on urban areas, wildfire prevalence, agricultural and ocean productivity, and habitat loss and ecosystem shift. Priority is being placed on mainstreaming climate adaptation within EPA and encouraging adaptation planning across the entire federal government.

The Site is located approximately 175 miles inland from the closest ocean at an elevation of approximately 4,440 feet above mean sea level and is, therefore, not expected to be impacted directly by sea level rise. Increased ambient temperatures, more frequent and prolonged droughts and heat waves, more intense storms, reduced availability of surface and groundwater, and more frequent and dangerous wildfires are the expected primary impacts of climate change in the area around Susanville, California.

3.6 GREEN AND SUSTAINABLE REMEDIATION GUIDANCE

When implemented effectively, green and sustainable remediation practices enhance the environmental benefits offered by federal cleanup and redevelopment programs, such as the EPA Brownfields Program. The principles governing green and sustainable remediation for EPA cleanup programs have been outlined in greater detail in EPA's *Principles for Greener Cleanups* (EPA, 2009), but generally seek to "optimize environmental performance and implement protective cleanups that are *greener* by increasing our understanding of the environmental footprint and, when appropriate, taking steps to minimize that footprint."

The following benefits can be reached through preferential use of green remediation approaches:

- Waste production and use of materials can be minimized.
- Impacts to water quality and water resources can be avoided.
- Air emissions and greenhouse gas production can be reduced.
- Natural resources and energy can be conserved.

3.6.1 Administrative Suggestions

Emphasis should be placed on selecting contractors, including laboratories, that follow green remediation best management practices. Use of contractors that place priority on clean fuel and emission technologies should be encouraged. Redevelopment plans and future use of the Site should guide the type of sampling and remediation, ensuring efficient and sustainable methods. Additionally, renewable energy production facilities should be encouraged as future development possibilities. Reporting efforts, both draft and final documents, should be submitted in digital format, rather than as hard copies. Outreach to local communities should optimize the use of electronic and centralized communication.

3.6.2 Operations Suggestions

The following suggestions should be considered to help achieve green and sustainable remediation at the Site:

- Whenever possible, non-renewable energy consumption should be minimized through energy-efficient equipment, use of renewable energy supply, and renewable energy generation systems on-site.
- Sustainable practices, such as using existing structures, capping, or constructing on-site repositories to reduce the use of fossil fuels, and use of native vegetation, should be encouraged.
- Environmentally preferable products, such as those outlined in EPA's Sustainable Marketplace: Greener Products and Services website (EPA, 2018c), https://www.epa.gov/greenerproducts, should be used where feasible, including environmentally friendly electronics, recycled products, and energy-efficient lighting.
- Mobilization during field efforts should use fuel-efficient and/or alternative fuel vehicles when feasible, encourage carpooling, and should avoid environmentally sensitive areas when placing operations centers and command posts.
- Waste should be minimized through conservation efforts, recycling, and reuse of items. The following procedures can be followed to minimize waste:
  - Field contamination screening should use non-invasive technologies where feasible.
  - Quantity of field samples should be minimized, and mobile laboratories should be prioritized when appropriate.
- Drilling and excavation activities should incorporate clean fuel and emissions controls, including idle reduction devices, use of ultra-low sulfur diesel and/or fuel-grade biodiesel, advanced emission controls, EPA or California Air Resources Board-verified emission control technology, and the performance of routine engine maintenance.
- Efficiency during transport and disposal operations should be maximized, and practices such as back-loading should be used whenever possible.

4. LIMITATIONS AND ADDITIONAL ASSESSMENT NEEDS

The TBA provides a valuable characterization of current and historical conditions of the subject property, including a summary of historical site use, previous investigations and regulatory involvement, site reconnaissance and photo documentation, as well as results for contaminants of concern at the Site (WESTON, 2018).

The extent of the lead, mercury, TPH-d, TPH-mo, dioxins, and PAHs in the soil was not defined during the assessment activities performed as part of the TBA; however, the data obtained were used to estimate the costs for Cleanup Alternatives. Contamination was assumed to be present throughout decision units with results above human health screening levels. If additional information is developed, the cap and/or excavation areas may be reduced or expanded. The assumptions provide a conservative, likely overestimation, of the amount of soil that would require excavation and disposal. Samples should be collected to determine the appropriate off-site disposal option.

The Phase II TBA and this associated ABCA can provide mitigation guidance, but are not to be used as full characterization or risk assessment reports. The information presented therein represents only the Site-specific, recognized environmental conditions and opinions of the environmental professional. ABCA estimates are based on limited site information and do not reflect regulatory agency input or site-specific pricing from vendors and contractors required to perform the work. The estimated costs are rough order of magnitude estimates that were prepared solely for the comparison of the identified alternatives and should not be used as design-level estimates. Additional remedial technologies may be available that were not considered in this ABCA.

5. REFERENCES

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WESTON. 2018. Draft Phase II Environmental Site Assessment Targeted Brownfield Assessment Report, Susanville Indian Rancheria, 477-280 North Weatherlow Street, Susanville, Lassen County, California. August.

5. REFERENCES

Department of Toxic Substances Control (DTSC), Human and Ecological Risk Office (HERO). 2017. Human Health Risk Assessment (HHRA) Note, HERO HHRA Note Number: 2, Issue: Soil Remedial Goals for Dioxins and Dioxin-like Compounds for Consideration at California Hazards Waste Sites. April.

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EPA. 2018b. Technologies for Cleaning Up Contaminated Sites. http://www.epa.gov/remedytech. Last updated on June 28.

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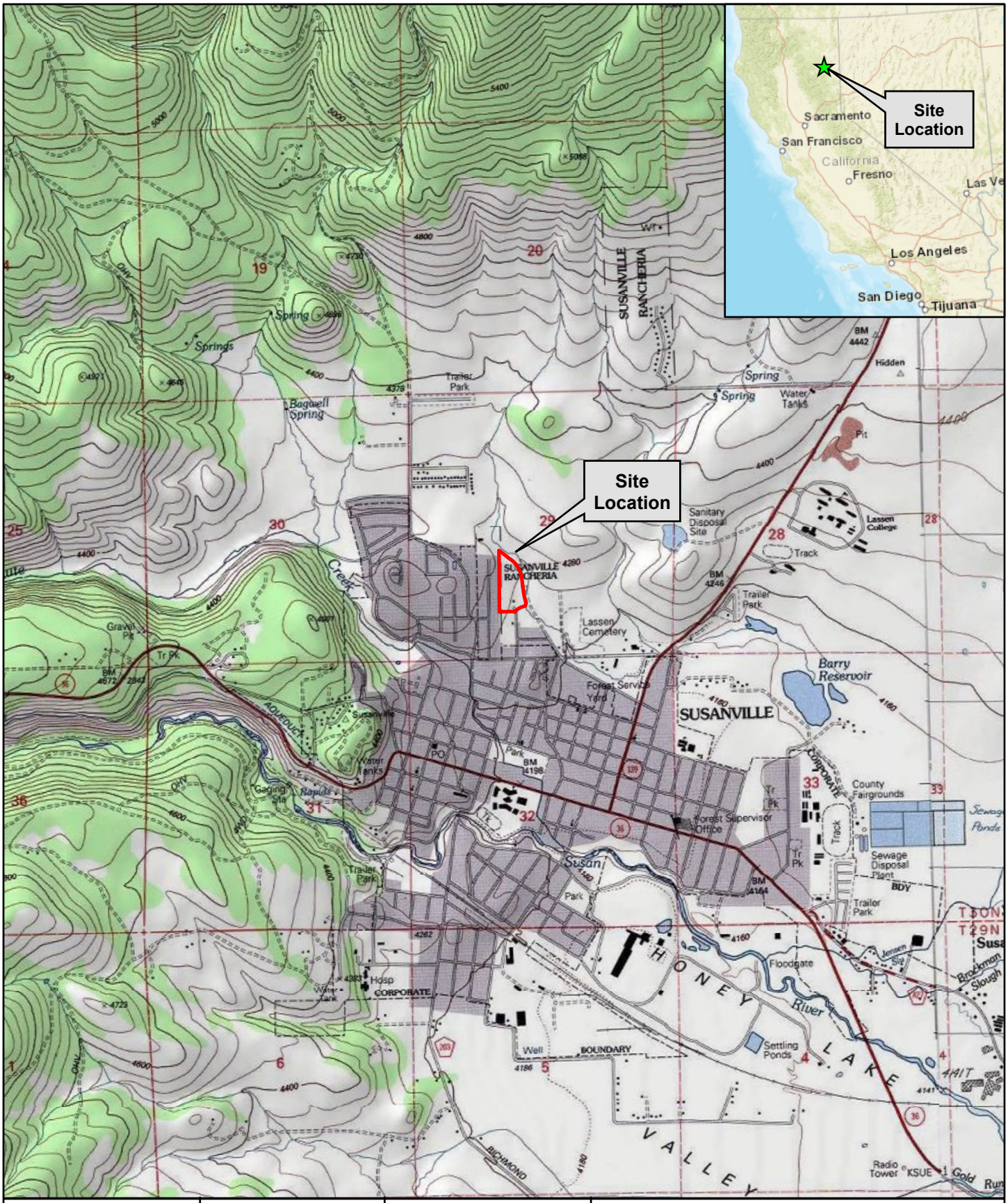
WESTON. 2018. Draft Phase II Environmental Site Assessment Targeted Brownfield Assessment Report, Susanville Indian Rancheria, 477-280 North Weatherlow Street, Susanville, Lassen County, California. August.

FIGURES



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PREPARED FOR:
EPA Region 9
Brownfields Program

FIGURE 1
SITE OVERVIEW MAP
Susanville Indian Rancheria
North Weatherlow Street - 477-280
Analysis of Brownfields Cleanup Alternatives
Susanville, Lassen County, California

Contract: EP-S5-13-02; TDD: 0006/1302-T6-R9-17-06-0001

Document Control No.: 0154-08-ABSU

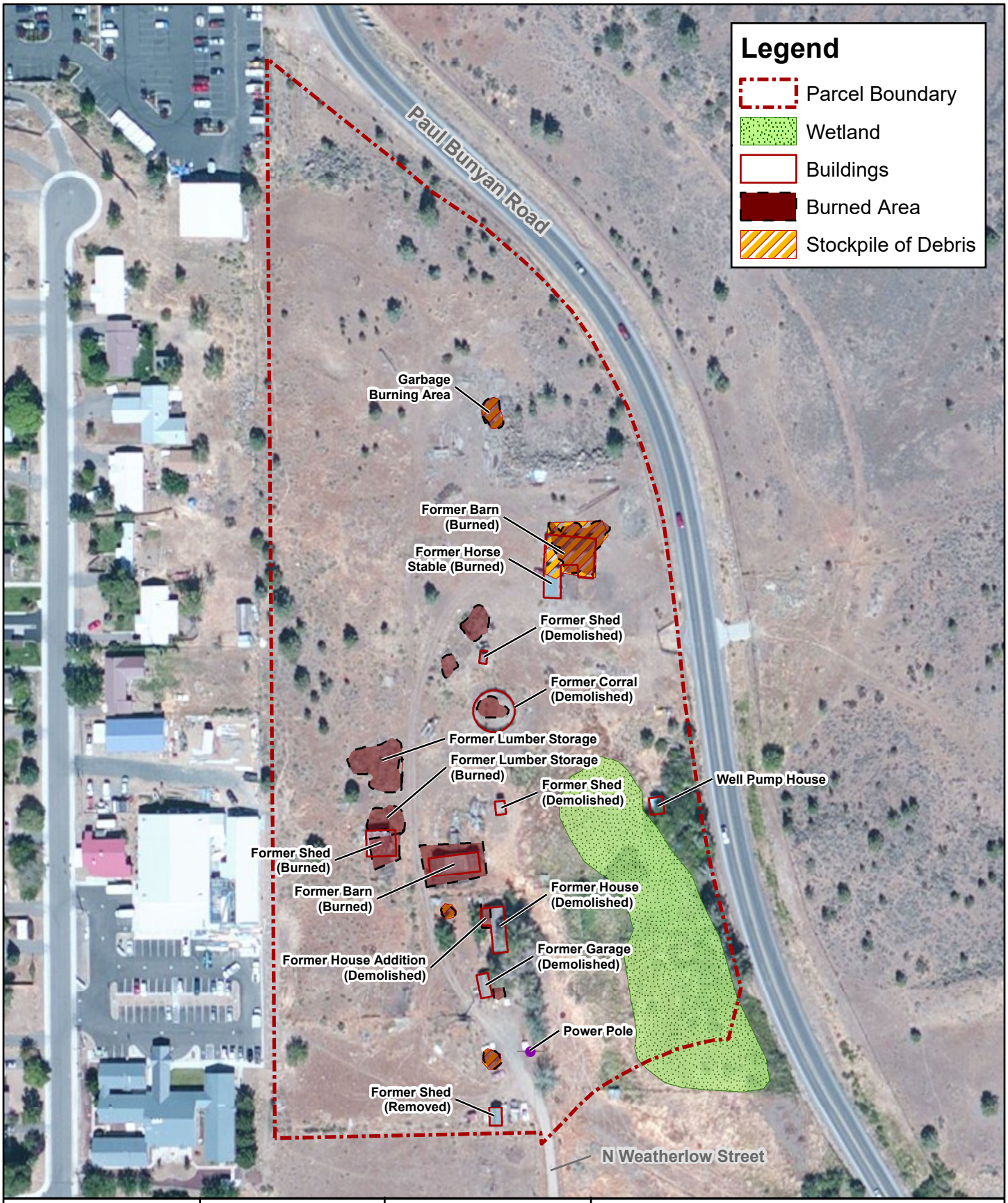

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FIGURE 2
SITE LAYOUT MAP
Susanville Indian Rancheria
North Weatherlow Street - 477-280
Analysis of Brownfields Cleanup Alternatives
Susanville, Lassen County, California

Contract: EP-S5-13-02; TDD: 0006/1302-T6-R9-17-06-0001

Document Control No.: 0154-08-ABSU

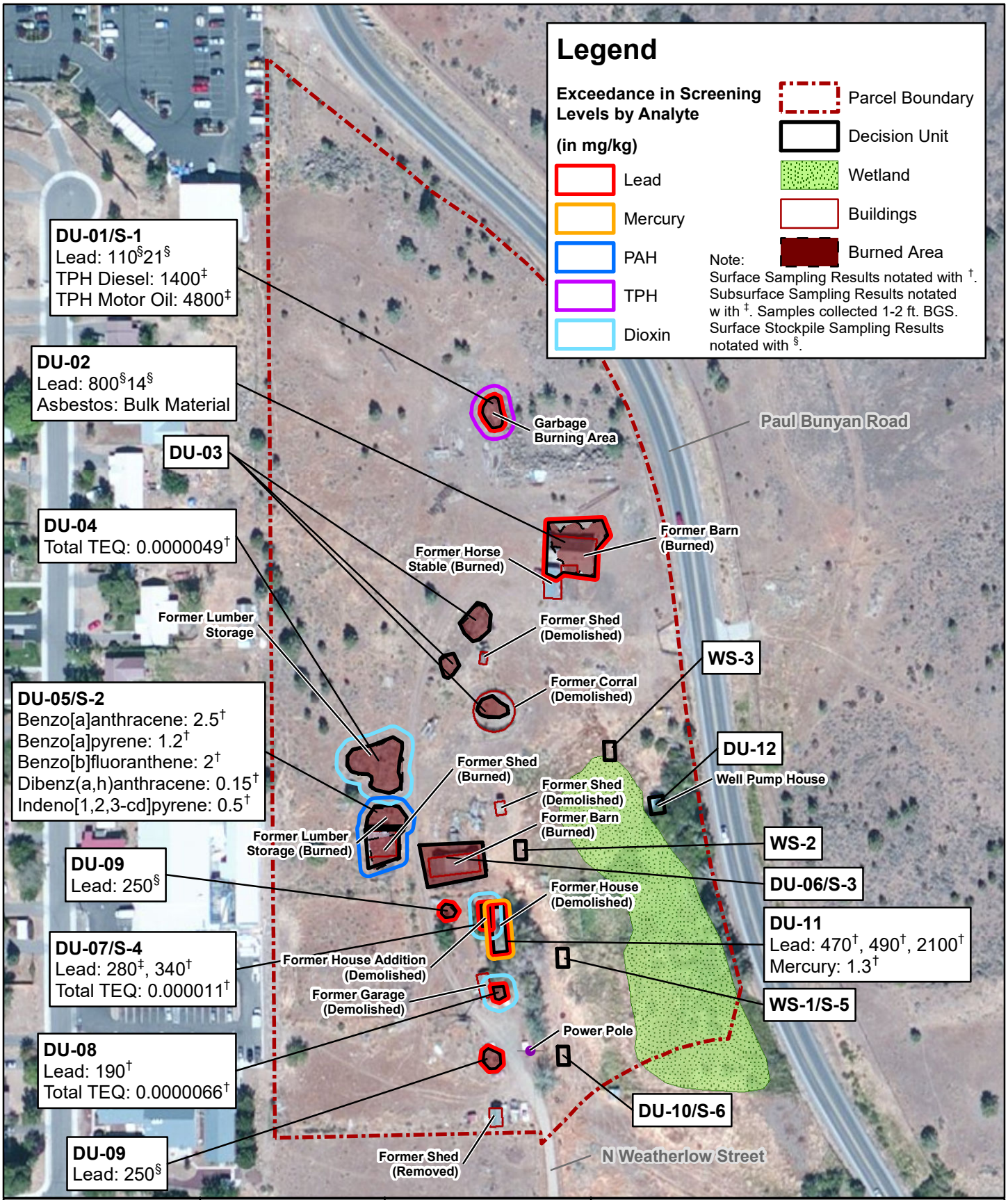

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FIGURE 3
SAMPLING RESULT EXCEEDANCES
Susanville Indian Rancheria
North Weatherlow Street - 477-280
Analysis of Brownfields Cleanup Alternatives
Susanville, Lassen County, California

Contract: EP-S5-13-02; TDD: 0006/1302-T6-R9-17-06-0001

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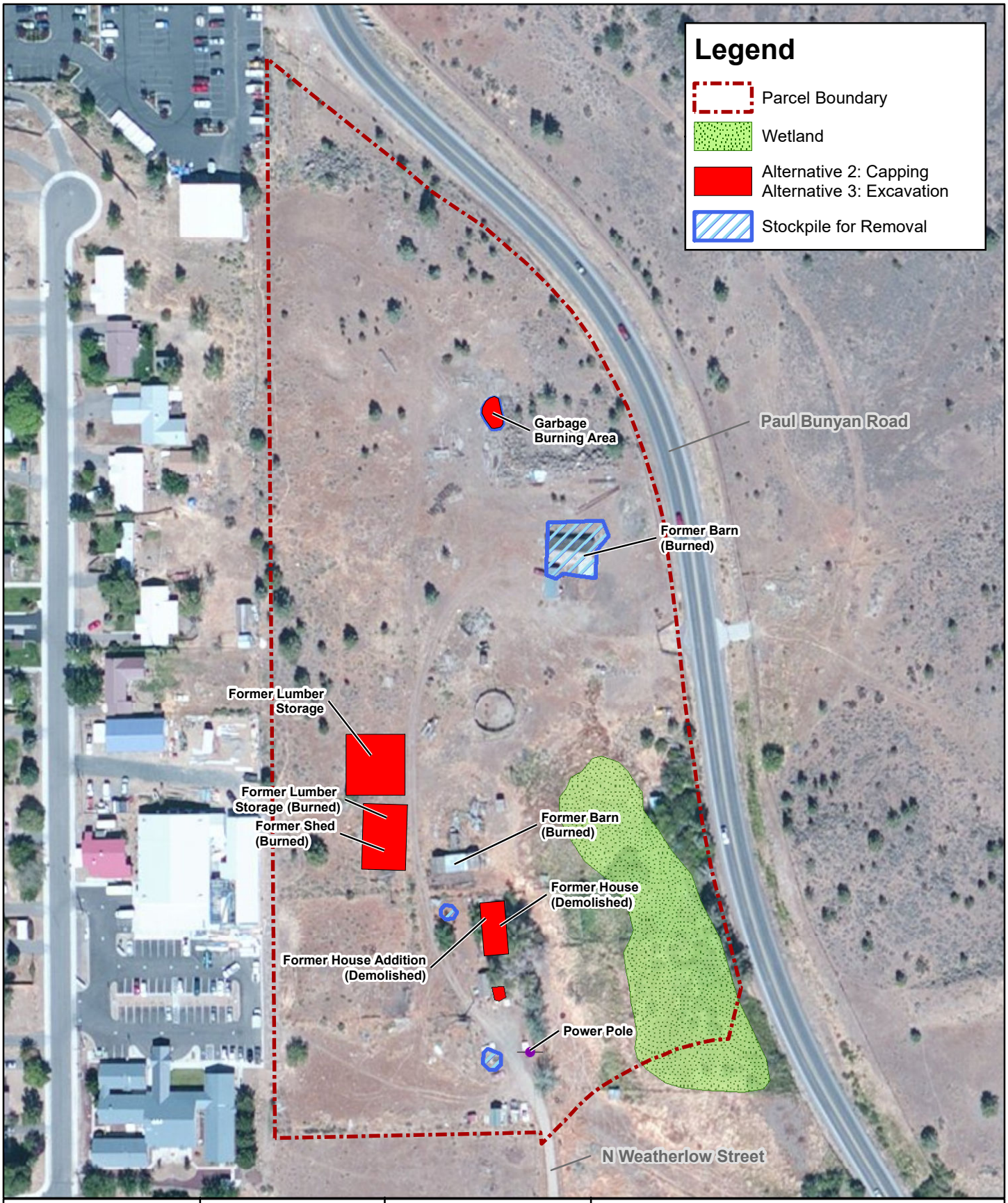

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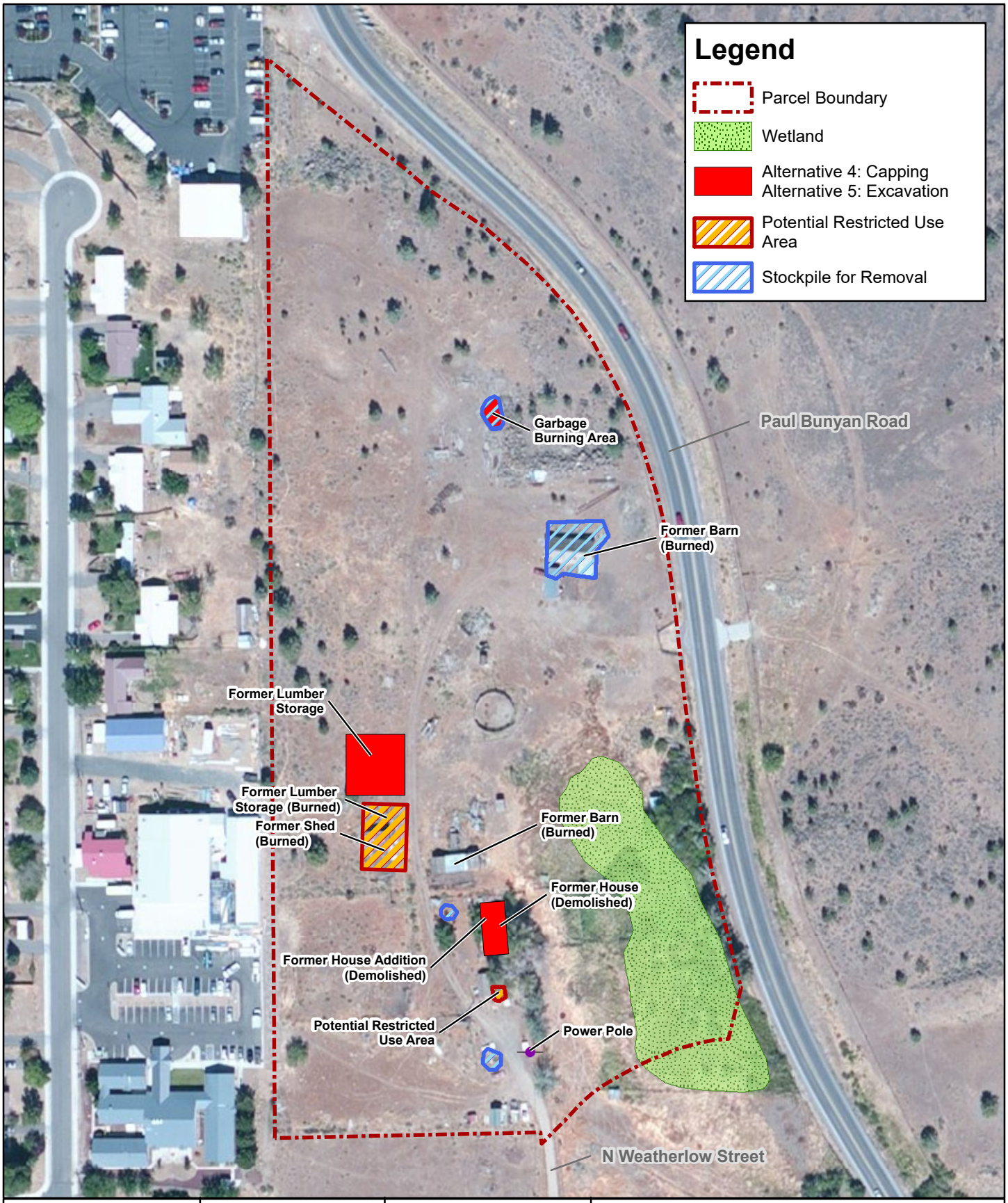
FIGURE 4
ALTERNATIVES 2 AND 3
Susanville Indian Rancheria
North Weatherlow Street - 477-280
Analysis of Brownfields Cleanup Alternatives
Susanville, Lassen County, California

Contract: EP-S5-13-02; TDD: 0006/1302-T6-R9-17-06-0001

Document Control No.: 0154-08-ABSU



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Brownfields Program

FIGURE 5

ALTERNATIVES 4 AND 5
Susanville Indian Rancheria
North Weatherlow Street - 477-280
Analysis of Brownfields Cleanup Alternatives
Susanville, Lassen County, California

Contract: EP-S5-13-02; TDD: 0006/1302-T6-R9-17-06-0001

Document Control No.: 0154-08-ABSU

SIR Natural Resources Department
735 Joaquin St.
Susanville CA 96130

Susanville Indian Rancheria
Notice of Public Meeting

Natural Resources Department is holding a public meeting on

Date: October 31, 2019

Time: 4:00pm to 5:00pm

Location: SIR Tribal Resource Center,
735 Joaquin Street, Susanville CA 96130

The objective of the meeting will be to solicit and receive public comments on the Analysis of Brownfields Cleanup Alternatives and Proposed Actions for the Guitierez property and Answer Questions related to the Potential Cleanup Project

Environmental Assessment Documents for the Site can be reviewed at the NRD office located at 735 Joaquin Street, Susanville CA 96130

Questions can be directed to:

Roselynn Lwenya, NRD Director, at (530) 316-1856 or rlwenya@sir-nsn.gov

William Johnson, Environmental Coordinator at (530) 322-9109 or Wjohnson@sir-nsn.gov

SIR Guitierez Property Brownfield Community Meeting

31-Oct-19

Name	Contact	Need Future Consultation? (Yes/No)

SIR Brownfield Consultation Team

5-Nov-19

Name	Contact	Interest in Joining Team/Comments (Yes/No)
Scott Nordstrom	(530) 251-8199 Lassen County Behavioral Health snordstrom@co.lassen.ca.us	Yes
Devin Nelson	(530) 764-1392 1205 chestnut st	Yes
Jade Farnan	250-5151 1020 Campbell	

Comments received during Public Notice Period and Outreach Activities

A woman by the name of Valerie came in the week of 11/4/19 to comment on the brownfield cleanup proposal. She said overall it was a well put together grant and her only complaint was that the public notice meeting should have been moved to a different day.

- The NRD's response was that the timing and venue was bad for the public notice meeting and that next time a better date and place will be chosen.

Scott Nordstrom from Lassen County Behavioral Health had comments inquiring about the specific contaminants at the site and the complexity of the cleanup.

- The NRD explained to him the potential hazards and toxicity of the contaminants within the site and how the cleanup would address them. The NRD also identified potential hazards during the cleanup event.

Devin Nelson is a concerned citizen that borders the brownfield property. His main concerns were the dangers of living so close to the brownfield and if his children are safe.

- The NRD reassured him of his concerns and clarified to him about the true dangers, toxicity, and hazards of the site. The NRD emphasized the point of the cleanup procedure was to remove those contaminants in a safe manner.

Jade Fannon is another concerned citizen we talked to and her concerns were of how the contaminants got there and why they remained there.

- The NRD explained the origin of the contaminants and how they were detected in the soil. The NRD also explained the importance of excavating the soil in order to fully remove the contaminants from the site.

PUBLIC NOTICE

Availability of Draft Analysis of Brownfield Cleanup Alternatives and Proposed Actions, 15 Days Public Comment Period, October 21 to November 4, 2019 and a Public Meeting, October 31, 2019, 4:00pm at the Susanville Indian Rancheria Resource Center, 735 Joaquin Street, Susanville, CA 96130.

This provides public notice of the availability of the draft Analysis of Brownfields Cleanup Alternatives (ABCA) and Proposed Actions (PA) for environmental clean up to be conducted at the above referenced location, for public review and comment. This analysis of Brownfields Cleanup Alternatives and Proposed Actions (PA) was prepared as a requirement of the EPA Brownfields Cleanup Grants to be provided to Susanville Indian Rancheria (SIR) for the cleanup at the old Gutierrez house and barn property (Site).

The document, as well as previous environmental assessment documents for the Site, can be reviewed at the tribal Natural Resources Department (NRD) office located at 735 Joaquin Street, Susanville, CA 96130 Monday through Friday 8:30 am to 4:30pm. Please contact the Natural Resources Department Director, Roselynn Lwenya, Ph.D., at (530) 316-1856 or rlwenya@sir-nsn.gov to review the documents.

This also provides notice that comments on the draft Analysis of Brownfields Cleanup Alternatives and proposed Actions can be submitted in writing to the SIR Tribal Administrator, Chandra Jabbs, 745 Joaquin Street, Susanville CA, 96130 or cjabbs@sir-nsn.gov. The Public comments for these documents begin October 21, 2019 and ends November 4, 2019.

A Public Meeting concerning the proposed draft Analysis of Brownfields Cleanup Alternatives (ABCA) and Proposed Actions (PA) will be held on October 31, 2019, at 4:00 pm in the Susanville Indian Rancheria Tribal Resource Center located at 735 Joaquin Street, Susanville, CA 96130. Public comments on the draft ABCA and PA will be accepted at the meeting. The Alternatives identified for cleanup activities recommended in the ABCA/PA include the following:

1. No Action.
2. Capping of Contaminated Soil, Removal of Stockpiled Debris, Water Supply Well Closure with Institutional Controls (ICs).
3. Excavation of Contaminated Soil, Removal of Stockpiled Debris, Confirmation Sampling, and Off-Site Disposal, Water Supply Well Closure with ICs.
4. Capping of Contaminated Soils that Exceed Commercial/Industrial Screening Levels, Water Supply Well Closure with ICs.
5. Excavation of Contaminated Soils that Exceed Commercial Industrial Levels, Confirmation Sampling, and Off-Site Disposal, Water Supply Well Closure with ICs.

OMB Number: 4040-0004
Expiration Date: 12/31/2019

Application for Federal Assistance SF-424

* 1. Type of Submission:
- [ ] Preapplication
- [x] Application
- [ ] Changed/Corrected Application

* 2. Type of Application:
- [x] New
- [ ] Continuation
- [ ] Revision

* If Revision, select appropriate letter(s):

* Other (Specify):

* 3. Date Received: 12/03/2019

4. Applicant Identifier:

5a. Federal Entity Identifier:

5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:

7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name: Susanville Indian Rancheria

* b. Employer/Taxpayer Identification Number (EIN/TIN):

* c. Organizational DUNS: 0404755010000

d. Address:

* Street1: 745 Joaquin Street

Street2:

* City: Susanville

County/Parish:

* State: CA: California

Province:

* Country: USA: UNITED STATES

* Zip / Postal Code: 96130-3628

e. Organizational Unit:

Department Name:

Division Name:

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:

* First Name: Mary

Middle Name: Lee

* Last Name: Dazey

Suffix:

Title: Grants Administrator

Organizational Affiliation: Susanville Indian Rancheria

* Telephone Number: 530-316-1747

Fax Number:

* Email: mdazey@sir-nsn.gov

Application for Federal Assistance SF-424

*** 9. Type of Applicant 1: Select Applicant Type:**

I: Indian/Native American Tribal Government (Federally Recognized)

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

Environmental Protection Agency

11. Catalog of Federal Domestic Assistance Number:

66.818

CFDA Title:

Brownfields Assessment and Cleanup Cooperative Agreements

*** 12. Funding Opportunity Number:**

EPA-OLEM-OBLR-19-07

* Title:

FY20 GUIDELINES FOR BROWNFIELD CLEANUP GRANTS

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

Add Attachment | Delete Attachment | View Attachment

*** 15. Descriptive Title of Applicant's Project:**

Brownfield Site 1 Hazardous Waste Excavation

Attach supporting documents as specified in agency instructions.

Add Attachments | Delete Attachments | View Attachments

Application for Federal Assistance SF-424

16. Congressional Districts Of:

* a. Applicant: CA-01 * b. Program/Project: CA-01

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment | Delete Attachment | View Attachment

17. Proposed Project:

* a. Start Date: 06/01/2020 * b. End Date: 10/01/2023

18. Estimated Funding ($):

* a. Federal	441,545.02
* b. Applicant	110,386.26
* c. State	0.00
* d. Local	0.00
* e. Other	0.00
* f. Program Income	0.00
* g. TOTAL	551,931.28

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

☐ a. This application was made available to the State under the Executive Order 12372 Process for review on .

☐ b. Program is subject to E.O. 12372 but has not been selected by the State for review.

☒ c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**

☐ Yes ☒ No

If "Yes", provide explanation and attach

Add Attachment | Delete Attachment | View Attachment

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: Ms. * First Name: Deana

Middle Name: M.

* Last Name: Bovee

Suffix:

* Title: Tribal Chairwoman

* Telephone Number: 530-257-6264 Fax Number:

* Email: dbovee@sir-nsn.gov

* Signature of Authorized Representative: Mary L Dazey * Date Signed: 12/03/2019